

# State of Washington REPORT OF EXAMINATION FOR WATER RIGHT APPLICATION **G1-28761**

File No. G1-28761 WAC Doc ID: 6006373

PRIORITY DATE
November 12, 2013

MAILING ADDRESS Howard and Deborah Rosenberg 28431 54th Avenue NW Stanwood, WA 98292-9420 APPLICATION NUMBER G1-28761

SITE ADDRESS (IF DIFFERENT) 31815 19th Dr. NW Stanwood, WA 98292

# Quantity Authorized for Withdrawal or Diversion

**DIVERSION RATE** 

UNITS

ANNUAL QUANTITY (AF/YR)

10

**GPM** 

0.39

Purpose						
9 5 9 5	WITHDRA	AWAL OR DIV	ERSION	ANNUAL QU	JANTITY (AF/YR)	
PURPOSE	ADDITIVE	NON- ADDITIVE	UNITS	ADDITIVE	NON-ADDITIVE	PERIOD OF USE (mm/dd)
Single Domestic Use	10		GPM	0.39		Continuous

Source Location							THE PARTY OF
WATERBODY	TRIBUTAL	RY TO		С	OUNTY	WATER RESO	URCE INVENTORY AREA
Well				Sno	homish		07
SOURCE FACILITY/DEVICE	PARCEL	TWN	RNG	SEC	QQ Q	LATITUDE	LONGITUDE
Well (Well Tag # BAT493)	01075700000300	32N	04E	2	SE	48.282621N	-122.255359W

Datum: WGS84

# Place of Use (See Map, Attachment 1)

PARCEL

01075700000300 (Lot 3 of Sun Peak Estates)

LEGAL DESCRIPTION OF AUTHORIZED PLACE OF USE

Parcel 01075700000300 (Lot 3 of Sun Peak Estates) located in Section 2, Township 32N, Range 4E, SE Quarter in Snohomish County.

(see Attachment 2 for a full legal description)

# **Proposed Works**

The system will consist of a well and water distribution system to one home.

Davis		Cahadula
Deve	opment	Schedule

BEGIN PROJECT	COMPLETE PROJECT	PUT WATER TO FULL USE
Started	December 31, 2023	December 31, 2028

# Measurement of Water Use

How	often must water use	e be measured?	Monthly

How often must water use data be reported to the

Department of Ecology (Ecology)?

Monthly during the first two years of water use, then Annually

water use, then Annually

What volume should be reported? Total Annual Volume and each monthly

volume

What rate should be reported?

Annual Peak Rate of Withdrawal (gpm)

# **Provisions**

You have demonstrated to Ecology's satisfaction that when your proposed mitigation plan, as conditioned below, is implemented, the proposed withdrawal and use of groundwater from the well on your property will not impair senior water rights, including instream flow rights, or be detrimental to the public interest or welfare. Accordingly, Ecology **approves** the mitigation plan insofar as it relates to the well on your property, as documented in Exhibits B and C to Sundberg Homes, Inc., et al. *Request/Petition for Declaratory Order or alternatively, Approval of Mitigation Plan*, dated November 9, 2012, subject to the following conditions:

1. As the proponent of the mitigation plan insofar as it relates to the well on your property, you are responsible for the ongoing commitments of its implementation as long as you own the property. In the event that the property is sold or transferred, all obligations of this mitigation plan are binding on your successors in interest.

- 2. Your average water use shall not exceed 350 gallons of water per day in any month.
- 3. You may not use water from the well on your property to water a lawn or garden or for any similar outdoor use, including any other consumptive use, provided that you may use such water outside to wash a car or other vehicle, to wash a dog or other pet that lives in the house, or for other minor, non-consumptive uses of like kind. Except as otherwise provided in this paragraph, the well on your property must only supply the indoor plumbing system. Connection to the outdoor plumbing system, such as exterior faucets or hose bibs, by the well on your property is prohibited, except for a single faucet or hose bib within 25 feet of a driveway or garage entrance. The prohibition on connection to outdoor plumbing in this paragraph shall remain applicable unless and until another lawful approval is obtained for the withdrawal and use of water from the well on your property that allows you to use water from the well for outdoor watering and to connect the well to outdoor plumbing. This condition does not prohibit the use of stand-alone cisterns, rain barrels, or other rainwater catchment systems for outdoor water use or other consumptive use so long as they are solely supplied by captured rooftop rainwater or water that is trucked in from off-site, you provide at least 30 days advance written notice to Ecology of your intent to use such water before commencing such use, including a description of the type and design of the system you intend to use, and you obtain such approvals, if any, as may be legally required for such use. Ecology may monitor your compliance with the provisions in this paragraph through lawful on-site visits and aerial photography, and will investigate reports of non-compliance by third parties. You will provide Ecology with permission to enter Sun Peaks Estates for such purposes.
- 4. All water use shall be measured with a meter at the wellhead that meets the requirements of WAC 173-173-090 and WAC 173-173-100. The meter shall be installed, operated, and maintained in accordance with WAC 173-173-110 and WAC 173-173-120. During the first two years of water use, you shall deliver monthly water use reports to Ecology by the 15<sup>th</sup> day of the following month. After the first two years of water use, you shall deliver monthly water use reports to Ecology annually on October 31st of each year (for the period from October 1 of the preceding year through September 30 of the current year). If the property is sold or transferred, the new owner shall provide monthly water use reports to Ecology by the 15<sup>th</sup> day of the following month during the first two years of water use and thereafter shall deliver monthly water use reports to Ecology annually on October 31<sup>st</sup> of each year (for the period from October 1 of the preceding year through September 30 of the current year). If monthly or annual water use reporting demonstrates a potential violation of condition number 2 above and water use is not required to cease under condition numbers 8 or 9 below, Ecology shall require monthly reporting until it appears that water use has complied with condition number 2 above for at least 24 consecutive months. Compliance with this provision is subject to inspection by Ecology through lawful on-site visits.

- 5. Your on-site sewage disposal system shall be inspected at a frequency outlined in WAC 246-272A-0270. Copies of the inspection reports shall be provided to Ecology. You will provide Ecology with permission to enter Sun Peaks Estates for such purposes.
- 6. Your sewage disposal shall remain through on-site sewage disposal. If sewage from your property is exported through a sanitary sewer system, the use of water from your well shall cease until an alternative source of mitigation water is found and approved by Ecology.
- 7. Notice of the Sundberg Homes, Inc, et al. Request for Approval of Mitigation Plan shall be incorporated in your property title by recording this Report of Examination in the Snohomish County Auditor's Office. The notice shall include a copy of the Sundberg Homes, Inc, et al. Request for Approval of Mitigation Plan and this Report of Examination.
- 8. Non-compliance with any of these conditions may result in penalties or an administrative order to cease using water per RCW 90.03.600 and 90.03.605.
- 9. Pursuant to WAC 173-503-060(c), if monitoring of this mitigation plan shows the mitigation is not effective, Ecology approval of the mitigation plan shall be suspended and water use shall cease until Ecology approves a new or revised mitigation plan.

The mitigation plan approved for your permit, through this Report of Examination, authorizes only the withdrawal and use of water from the well located on your property, and, except as otherwise provided in condition 3 above, the mitigation plan conditions set forth in this letter apply only to the withdrawal and use of water from that well. All of the mitigation plan conditions set forth in this report shall remain applicable to the withdrawal and use of water from the well located on your property notwithstanding any sale or other transfer or conveyance of the property, unless and until another lawful approval is obtained for the withdrawal and use of water from that well.

# Water Use Efficiency

The water right holder is required to maintain efficient water delivery systems and use of up-to-date water conservation practices consistent with RCW 90.03.005.

# **Proof of Appropriation**

The water right holder shall file the notice of Proof of Appropriation of water (under which the certificate of water right is issued) when the permanent distribution system has been constructed and the quantity of water required by the project has been put to full beneficial use. The certificate will reflect the extent of the project perfected within the limitations of the permit. Elements of a proof inspection may include, as appropriate, the source(s), system instantaneous capacity, beneficial use(s), annual quantity, place of use, and satisfaction of provisions.

# Schedule and Inspections

Department of Ecology personnel, upon presentation of proper credentials, shall have access at reasonable times, to the project location, and to inspect at reasonable times, records of water use, wells, diversions, measuring devices and associated distribution systems for compliance with water law.

# **Findings of Facts**

Upon reviewing the investigator's report, I find all facts, relevant and material to the subject application, have been thoroughly investigated.

Furthermore, I concur with the investigator and find that: water is available from the source in question; that there will be no impairment of existing rights; that the purpose(s) of use are beneficial; and that there will be no detriment to the public interest or welfare.

Therefore, I ORDER approval of Application No. G1-28761, subject to existing rights and the provisions specified above.

Further, I ORDER that at the time a permit is issued to you under this approval, such permit shall supersede the Department of Ecology's May 1, 2013, letter to you approving your mitigation plan as documented in Exhibits B and C to Sundberg Homes, Inc., et al. *Request/Petition for Declaratory Order or alternatively, Approval of Mitigation Plan*, dated November 9, 2012, and the Department of Ecology's May 1, 2013, letter to you shall be rescinded.

# Your Right To Appeal

You have a right to appeal this Order to the Pollution Control Hearing Board (PCHB) within 30 days of the date of receipt of this Order. The appeal process is governed by Chapter 43.21B RCW and Chapter 371-08 WAC. "Date of receipt" is defined in RCW 43.21B.001(2).

To appeal you must do the following within 30 days of the date of receipt of the Order.

- File your appeal and a copy of this Order with the PCHB (see addresses below). Filing means actual receipt by the PCHB during regular business hours.
- Serve a copy of your appeal and this Order on Ecology in paper form by mail or in person. (See addresses below.) E-mail is not accepted.

You must also comply with other applicable requirements in Chapter 43.21B RCW and Chapter 371-08 WAC.

Street Addresses	Mailing Addresses
Department of Ecology	Department of Ecology
Attn: Appeals Processing Desk	Attn: Appeals Processing Desk
300 Desmond Drive SE	PO Box 47608
Lacey, WA 98503	Olympia, WA 98504-7608
Pollution Control Hearings Board	Pollution Control Hearings Board
111 Israel RD SW STE 301	PO Box 40903
Tumwater, WA 98501	Olympia, WA 98504-0903

16 day of Jamary Signed at Bellevue, Washington, this \_

Jacqueline Klug, Section Manager Water Resources Program/NWRO Department of Ecology

Investigator's Report

Application for Water Right - Howard and Deborah Rosenberg

Water Right Control Number: G1-28761

Investigator: Jerry Liszak

# BACKGROUND

The applicant's property is located in the Carpenter-Fisher sub-basin within the Lower Skagit Watershed, also known as Water Resource Inventory Area 3 (WRIA 3). WRIA 3 has an Instream Resources Protection Program rule (WAC 173-503) established in 2001 to protect senior water rights, maintain a healthy ecosystem, and provide limited amounts of water for future uses. Sun Peak Estates (Sun Peak) submitted proposed mitigation plans on behalf of seven landowners, including the applicant, which Washington Department of Ecology (Ecology) modified by allowing for 1/12<sup>th</sup> acre lawn irrigation on each lot while accounting for septic return flow of water into the Fisher basin with water pumped from wells tapping water from an aquifer connected to the adjacent Stillaguamish basin. On May 1, 2013, Ecology approved the mitigation plan and issued seven approval orders to the affected parties owning lots within Sun Peak Estates, including the applicant, with certain conditions, including requiring all the wells to be completed in the deeper Sedimentary Aquifer. The Swinomish Indian Tribal Community (Tribe) appealed Ecology's approvals of the mitigation plans on May 28, 2013.

Subsequent to filing the appeal, the seven Sun Peak lot owners (including the applicant), the Tribe, and Ecology have negotiated a settlement resulting in a mitigation agreement by the parties. The mitigation agreement is implemented through the provisions to this water right set forth on pages 2 through 4 above.

To carry out the settlement, Ecology received a letter from the applicant on November 12, 2013, requesting Ecology to consider the proposed mitigation plan submitted by Sun Peak as an application for a water right permit. Ecology finds that the information in the proposed mitigation plan is sufficient to enable Ecology to consider it as a water right permit application under RCW 90.03.250. Further, Ecology finds that the proposed mitigation plan constitutes a proposed "resource management technique" that is designed to "[offset] the impact of the withdrawal of water proposed in the application for the water right . . . in the same water resource inventory area" under RCW 90.44.055.

# **Project Description**

The applicant intends to withdraw groundwater from a well on its property for single domestic use. The system will consist of a well and water distribution system to the home.

Table 1
Summary of Application No. G1-28761

Attributes Proposed

Applicant Howard and Deborah Rosenberg

Application Received	November 12, 2013
Instantaneous Quantity	10 gpm
Source	Well (Well Tag # BAT493)
Point of Withdrawal	SE ¼, Section 2, Township 32 North, Range 4 East, W.M.
Purpose of Use	Single Domestic
Period of Use	Continuous
Place of Use	The southeast quarter of Section 2, Township 32 North, Range 4 East of the Willamette Meridian. Located in Snohomish County, Parcel 01075700000300 (Lot 3 of Sun Peak Estates)

# Legal Requirements for Application Processing

The following requirements must be met prior to processing a water right application:

# Public Notice

Notice of this application was published in the Everett Daily Herald on December 7, 2013, and December 14, 2013. No protests were received.

# • State Environmental Policy Act (SEPA)

A water right application is subject to a SEPA threshold determination (i.e., an evaluation whether there are likely to be significant adverse environmental impacts) if any one of the following conditions are met:

- (a) It is a surface water right application for more than 1 cubic feet per second, unless that project is for agricultural irrigation, in which case the threshold is increased to 50 cubic feet per second, so long as that irrigation project will not receive public subsidies;
- (b) It is a groundwater right application for more than 2,250 gallons per minute;
- (c) It is an application that, in combination with other water right applications for the same project, collectively exceed the amounts above;
- (d) It is a part of a larger proposal that is subject to SEPA for other reasons (e.g., the need to obtain other permits that are not exempt from SEPA);
- (e) It is part of a series of exempt actions that, together, trigger the need to do a threshold determination, as defined under WAC 197-11-305.

The requested water right is part of the Sun Peaks development on a 40-acre parcel comprised of 12 residential lots having individual wells for each home. Because the combined pumping of all

the wells does not meet any of these conditions, it is categorically exempt from SEPA and a threshold determination is not required.

# INVESTIGATION

# Site Visit/Site Description

On August 3, 2012, John Rose, of Ecology, and Chuck Lindsay, Associated Earth Sciences, Inc., verified the well location, diameter, and Well Tag Number (BAT493). Depth to water measured from the top of the access port was 144.58 feet. Based on a LIDAR surface elevation of 655.63 feet and accounting for a 1.92 foot casing stickup, the static groundwater elevation was 512.97 feet.

# Other Rights Appurtenant to the Place of Use

There are no existing water rights appurtenant to the proposed place of use.

# Hydrogeology

The ground surface at Sun Peak and the immediate surrounding area is covered by a layer of low permeability glacial till sediments that are underlain at a relatively shallow depth by Chuckanut Formation bedrock. The glacial till sediments are a few tens of feet thick in the vicinity of the site and consist of varying amounts of clay, silt, sand, gravel, cobbles, and boulders. The glacial till is dense, has low permeability, and is considered to act as a confining unit. The Chuckanut Formation consists of alternating intervals of coarse grained sandstone and minor conglomerate and fine grained sandstone and siltstone. Fractured portions of the Chuckanut Formation are referred to as the Sedimentary Aquifer by the USGS (2009). The Sedimentary Aquifer underlies the Sun Peak properties. The aquifer is confined under Sun Peak site and in other areas where it is fully saturated and covered by glacial sediments. It is unconfined in other areas where it crops out. There are also fine grained bedrock intervals within the Sedimentary Aquifer which may produce localized confining conditions. See Attachment 3, *Hydrogeologic Assessment Sun Peaks Estates, Snohomish County*, prepared by Associated Earth Sciences, Inc, dated October 30, 2012.

Well log data indicate regional groundwater flow directions in the Sedimentary Aquifer is generally westerly trending beneath the Sun Peak site, although it is relatively flat and has northern and southern gradient components respectively north and south of the site. Well logs at different completion elevations also suggest there is a downward gradient component. The Sun Peak wells will tap ground water in the Sedimentary Aquifer at an elevation of roughly 500 feet.

# Well Drilling

The 12 domestic wells drilled at Sun Peak range in depth from 42 feet to 425 feet and are completed within fractured, water-bearing sedimentary bedrock. The wells all appear to have encountered roughly 25 feet (Lot 11) to 80 feet (Lot 9) of relatively dense, low permeability glacial till overlying sedimentary bedrock. Nine of the onsite wells (Lots 3, 4, 5, 6, 7, 8, 9, 11, and 12) appear to intercept water bearing, fractured sandstone in the Sedimentary Aquifer at depths of greater than 140 feet below the ground surface.

The depths to ground water in eight of the wells ranged between approximately 145 feet (Lot 3) and 177 feet (Lot 12), which correspond to a rough elevation range of 502 feet to 517 feet. The wells on three lots (Lots 1, 2, and 10) appear to intercept localized shallow water-bearing fractures in the upper bedrock unit that begin at depths of roughly 40 to 60 feet. The depth to ground water measured in the shallow wells in August, 2012, ranged from less than 10 feet (Lot 2) to approximately 20 feet (Lot 10), which correspond to a range in elevation from roughly 641 feet to 622 feet. The shallow wells on lots 2 and 10 must be deepened to intercept water from the regional Sedimentary Aquifer at an elevation below 500 feet as a provision for obtaining a water right permit for those lots.

Yields from the onsite wells, as reported by the well drillers on the water well reports, range from approximately 1.5 gallons per minute (gpm) to 35 gpm. However most of these were determined from bailer tests which are not as accurate as pump tests. Yields from the wells completed in the deeper Sedimentary Aquifer are reported as an average of approximately 11 gpm.

# Site Hydrogeology

Ecology reviewed the Sun Peaks Estates Mitigation Plan and Sun Peaks Hydrogeologic Assessment with all relevant hydrogeologic data and reports, including comments and information submitted by the Swinomish Indian Tribal Community. While Ecology agrees with the general concept of the mitigation plan, Ecology is modifying some assumptions in the Sun Peaks Estates mitigation plan to factor in information regarding the United States Geologic Survey (USGS) Groundwater Model, water well logs and other geologic reports. Ecology's analysis included information received from the Tribe and its reference to USGS model estimates of groundwater extraction and recharge percentage effects on the Fisher Creek Basin. This analysis indicates that if the wells on lots 2 and 10 of Sun Peak Estates are deepened to intercept the regional Sedimentary Aquifer, if outdoor water use from the wells is prohibited on the Sun Peak Estates lots as described in the provisions above, and if the other conditions set forth in the provisions above are satisfied, return flow from septic systems at the Sun Peaks lots to the Fisher Creek Basin would mitigate the use and withdrawals' groundwater extraction effects on the Fisher Creek Basin. These findings of fact apply to the applicant's proposed use and withdrawal of water.

# **Four Statutory Tests**

This Report of Examination (ROE) evaluates the application based on the information presented above. To approve the application, Ecology must issue written findings of fact and determine that each of the following four requirements of RCW 90.03.290 has been satisfied:

- 1. The proposed appropriation would be put to a beneficial use;
- 2. Water is available for appropriation;
- 3. The proposed appropriation would not impair existing water rights; and
- 4. The proposed appropriation would not be detrimental to the public welfare.

# Beneficial Use

The Water Resources Act of 1971 (RCW 90.54.020(1) defines beneficial uses of water. The application requests water for single domestic use. Single domestic use is explicitly listed as a beneficial use under RCW 90.54.020(1); therefore, the proposed use of water is a beneficial use.

# Availability

For water to be available for appropriation, it must be both physically and legally available.

# Physical Availability

For water to be physically available for appropriation there must be ground or surface water present in quantities and quality and on a sufficiently frequent basis to provide a reasonably reliable source for the requested beneficial use or uses. In addition, the following factors are considered:

- Volume of water represented by senior water rights, including federal or tribal reserved rights or claims;
- Water right claims registered under Chapter 90.14 RCW;
- Groundwater uses established in accordance with Chapter 90.44 RCW, including those that are exempt from the requirement to obtain a permit; and
- Potential riparian water rights, including non-diversionary stock water.
- Lack of data indicating water usage can also be a consideration in determining water availability, if the department cannot ascertain the extent to which existing rights are consistently utilized and cannot affirmatively find that water is available for further appropriation.

The bailer testing performed on the proposed point of withdrawal showed that water is available from the applicants well completed within the Sedimentary Aquifer.

# Legal Availability

To determine whether water to be legally available for appropriation, the following factors are considered:

- Regional water management plans which may specifically close certain water bodies to further appropriation.
- Existing rights which may already appropriate physically available water.
- Fisheries and other instream uses (e.g., recreation and navigation). Instream needs, including instream and base flows set by regulation. Water is not available for out of stream uses where further reducing the flow level of surface water would be detrimental to existing fishery resources.
- Ecology may deny an application for a new appropriation in a drainage where adjudicated rights exceed the average low flow supply, even if the prior rights are not presently being exercised. Water would not become available for appropriation until existing rights are relinquished for non-use by state proceedings.

G1-28761

Water in the Fisher Creek sub-basin is not legally available for new consumptive uses in the absence of approved mitigation measures. However, given that water will be added to the Fisher Creek sub-basin under the conditions of the mitigation plan, as modified by Ecology and agreed to by the Tribe and the applicant, there will be a net benefit to the Fisher Creek sub-basin. A significant proportion of the water will come from the Stillaguamish Basin which will be delivered into the Fisher Creek sub-basin via septic recharge. Water Resource Inventory Area (WRIA) 5 - Stillaguamish River basin has a reservation system for permit-exempt domestic wells (WAC 173-505-090) which accounts for water use at a rate of 350 gallons per day (gpd) and limits outdoor water use to the watering of 1/12 acre for domestic exempt wells. Reservation water is still available in the Stillaguamish River basin. The 350 gpd can be reduced to 175 gpd if the residence is served by an on-site septic system located within the same WRIA. However, in this situation the water will be transported into the adjacent WRIA. Therefore, the Stillaguamish domestic reservation shall be debited 350 gpd on approval of this water right. The maximum potential negative impact to groundwater/surface water in the Stillaguamish Basin is 350 gpd per well, which is equal to a maximum annual total of 0.39 acre-feet per year (ac-ft/yr). See Attachment 4, Hydrogeologic Assessment and Mitigation Plan Sun Peaks Estates, Snohomish County, prepared by Associated Earth Sciences, Inc., dated October 30, 2012.

# Potential for Impairment

Impairment is an adverse impact on the physical availability of water for a beneficial use that is entitled to protection. A water right application may not be approved if it would:

- Interrupt or interfere with the availability of water to an adequately constructed groundwater withdrawal facility of an existing right. An adequately constructed groundwater withdrawal facility is one that (a) is constructed in compliance with well construction requirements and (b) fully penetrates the saturated zone of an aquifer or withdraws water from a reasonable and feasible pumping lift.
- Interrupt or interfere with the availability of water at the authorized point of diversion of
  a surface water right. A surface water right conditioned with instream flows may be
  impaired if a proposed use or change would cause the flow of the stream to fall to or
  below the instream flow more frequently or for a longer duration than was previously the
  case.
- Interrupt or interfere with the flow of water allocated by rule, water rights, or court decree to instream flows.
- Degrade the water quality of the source to the point that the water is unsuitable for beneficial use by existing users (e.g., via sea water intrusion).

This applicant's well is completed in the Sedimentary Aquifer and will withdraw water hydraulically connected to both the Stillaguamish Basin and the Fisher sub-basin. This will provide more groundwater recharge to the Fisher Creek sub-basin than withdrawn from it by virtue of septic return flows mentioned above as long as the applicant and the applicant's successors-in-interest comply with Ecology's modifications of the applicant's mitigation plan as

set forth in the provisions above and as agreed to by the Tribe and the applicant. This will ensure non-impairment of instream flows in the Skagit Basin.

RCW 90.44.055 provides for water resource management techniques to increase water supply via recharge of groundwater as a means of making water available or otherwise offsetting the impact of a withdrawal of groundwater proposed in an application for water right. The increase of groundwater recharge in the Fisher Creek sub-basin will ensure that there is no reduction in water flowing from the Fisher sub-basin into the Skagit Basin. There will also be no impairment in the Stillaguamish Basin since water will be debited 350 gpd from the Stillaguamish domestic reservation, as discussed above.

# Public Welfare

There will be no detriment to the public interest or welfare, because water from the Stillaguamish Basin domestic reservation will be tapped and debited, and septic recharge in the Fisher Creek sub-basin will ensure that flows will not be reduced in the Skagit Basin. This will ensure that there will be no negative impacts on the public interest and welfare including instream values, and fish populations.

# Consideration of Protests and Comments

In response to public notice of this application, the Department of Ecology received no protests regarding this application for groundwater.

# CONCLUSIONS

The conclusions based on the above investigation are as follows:

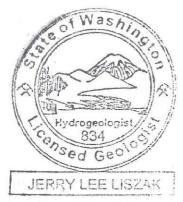
- 1. The proposed appropriation for single domestic use is a beneficial use of water;
- 2. The requested 10 gpm and 0.39 acre-feet per year is available for appropriation;
- 3. The new appropriation will not impair senior water rights; and
- 4. The new appropriation will not be detrimental to the public welfare.

### RECOMMENDATION

Based on the information presented above, the authors recommend that the request to appropriate groundwater be approved in the amounts described, limited, and provisioned on page 2 through 4 of this report.

Report by:

Jerry Liszak, L.G., L.HG. - Water Resources Program Date



If you need this publication in an alternate format, please call Water Resources Program at 360 407-6600. Persons with hearing loss can call 711 for Washington Relay Service. Persons with a speech disability can call 877-833-6341.

# REFERENCES

AESI, 2012, Hydrogeologic Assessment and Mitigation Plan Sun Peak Estates, Snohomish County, Washington, Charles Lindsay, Associated Earth Scientists. Inc., October 30, 2012

EES, 2002. Skagit River Basin; Return Flows to Aquifer- Exempt Wells. Draft Memorandum, Dave Moldal, Economic and Engineering Services, Inc. Olympia, Washington. December 10, 2002

Johnson, K.H., and Savoca, M.E., 2010, Numerical simulation of the groundwater-flow system in tributary subbasins and vicinity, lower Skagit River basin, Skagit and Snohomish Counties, Washington: U.S. Geological Survey Scientific Investigations Report 2010-5184, 78 p.

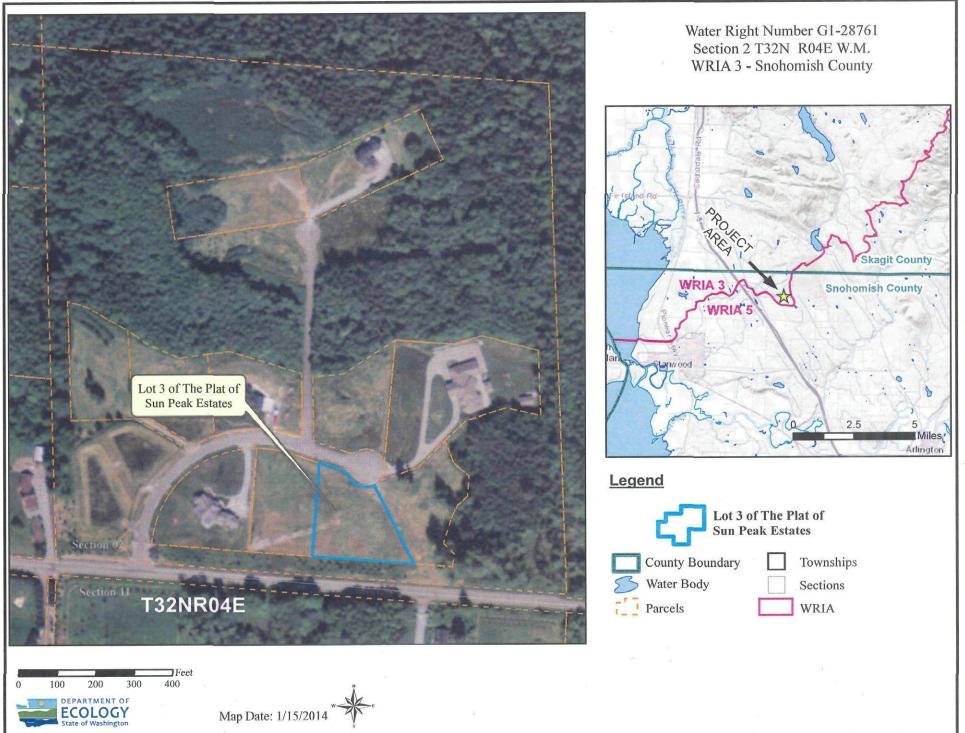
Keta Waters, 2012, Review of "Hydrogeologic Assessment. Sun Peak Estates. Snohomish County, Washington" prepared by Associated Earth Scientists. Inc., October 30, 2012.

Memorandum, Joel Massmann, March 1, 2013

Liszak, J.L., April 23, 2013, Sun Peak Estates Water Balance for 1/12th acre irrigation

PGG, 2002. City of Sequim 2001 Hydrologic Monitoring Report, Clallam County, Washington, prepared by the Pacific Groundwater Group for City of Sequim, May 16, 2002.

Savoca, M.E., Johnson, K.H., Sumioka, S.S., Olsen, T.D., Fasser, E.T., and Huffinan, R.L., 2009, *Hydrogeologic framework, groundwater movement, and water budget in tributary subbasins and vicinity, lower Skagit River basin, Skagit and Snohomish Counties, Washington:* U.S. Geological Survey Scientific Investigations Report 2009-5270, 46 p.



# Attachment 2

# Lot 3 (Parcel 01075700000300)

Lot 3 of the Plat of Sun Peak Estates being a rural cluster sub division Township 32 North, Range 4 East, SW ¼ SE ¼ of section 2, Willamette Meridian, Auditor's File No. 200706065234 situated within Snohomish County, Washington. Described as follows:

Beginning at the S ½ corner of Section 2, Township 32 North, Range 4 East, W.M., thence S 85°44′53″ E 633.39 ft, thence N 4°15′07″ E 326.56 ft to the true point of beginning, thence S 71°51′25″ E 63.69 ft, thence along a curve to the right having a central angle of 48°11′23″, a radius of 25 ft, and an arc length of 21.03 ft, thence along a curve to the left having a central angle of 92°48′31″, a radius of 50 ft, and an arc length of 80.99 ft, thence S 26°28′33″ E 231.67 ft, thence N 85°44′53″ W 366.02 ft, thence N 4°15′07″ E 246.56 ft to the true point of beginning.

# Associated Earth Sciences, Inc.











# Attachment 3 & 4

Serving the Pacific Northwest Since 1981

October 30, 2012 Project No. EH110368A

Mr. Zachary J. Barborinas 15119 McLean Road Mount Vernon, Washington 98273

Mr. Peter Ojala Carson Law Group P.S. 3202 Hoyt Avenue Everett, Washington 98201-4311

Subject: FINAL REPORT

Hydrogeologic Assessment and Mitigation Plan

Sun Peaks Estates

Snohomish County, Washington

# INTRODUCTION AND BACKGROUND

This report summarizes the results of a hydrogeologic assessment completed by Associated Earth Sciences, Inc. (AESI) in support of a mitigation plan for selected lots in the Sun Peaks Estates, which is situated in the Fisher Creek subbasin of Skagit/Snohomish Counties. The general location of the Sun Peaks Estates is shown on the "Location Map," Figure 1. The layout of the site is shown on the Plat Map, Figure 2.

Sun Peaks Estates is roughly 40-acres of property that includes 12 residential lots located just north of 316th Street NW and approximately 1,300 feet east of English Grade Road in northwest Snohomish County. The ground surface of the property generally slopes downward to the southwest and ranges in elevation between roughly 600 feet and 680 feet above mean sea level. A small seasonal tributary to Fisher Creek bisects the site in an approximate east-west direction (Figure 2). All elevations referenced in this report are relative to mean sea level (datum NAVD88) unless otherwise noted.

The Sun Peaks Estates is comprised of 12 residential lots (Figure 2). However, a single home has been built on Lots 5 and 6; therefore, there are a total of 11 buildable lots at the site. Individual single-family domestic wells have been drilled on each of the original residential lots. There are currently occupied homes located on Lot 1, Lots 5/6, Lot 8, and Lot 12.

The Fisher-Carpenter Creek subbasins were closed in 2010 to the drilling of single-family domestic wells under the Skagit Instream Flow Rule amendments reservation system adopted by the Washington State Department of Ecology (Ecology) in 2006, unless the well's potential impact to surface water flow in either Fisher Creek or Carpenter Creek is mitigated. The 2006 Skagit Instream Flow Rule amendments reservation system established the maximum total daily individual residential water use at 350 gallons per day (gpd) with outdoor water use being limited to the watering of an outdoor area not to exceed a total of ½acre. Of the 350 gpd total residential use, 175 gpd is assumed to be septic return flow, and the remaining 175 gpd is consumptive use.

Due to the closure of the Fisher Creek subbasin, the owners of seven of the Sun Peaks Estates lots (Lots 2, 3, 4, 7, 9, 10, and 11, Figure 2) are currently being denied the use of their wells for single-family residential purposes (domestic exempt) by Ecology under the assumption the wells intercept ground water that provides recharge to Fisher Creek and that their use results in a negative impact to and a diminishment of flow in the stream. These seven property owners are currently appellants (referred to herein as "appellants") in an appeal before the Pollution Control Hearings Board over the closure of the subbasin, and other related issues. The remaining wells on Lots 1, 5, 6, 8, and 12 were installed and put to beneficial use prior to 2010 and are not subject to the current subbasin closure.

The purpose of our services was to evaluate the hydrogeology of the Sun Peaks Estates area, evaluate potential impacts to source water, and to ascertain if the use of the appellants' wells will result in a negative impact to or a diminishment of a source or flow in Fisher Creek or if mitigation is an option.

# GEOLOGIC AND HYDROGEOLOGIC SETTING

# General

The U.S. Geological Survey (USGS) recently completed a comprehensive and detailed geologic/hydrogeologic evaluation of the lower Skagit River basin, including the Fisher and Carpenter Creek subbasins, for the Skagit County Public Works Department (Skagit County), Skagit County Public Utility District No. 1 (District), and Ecology. Details of the USGS study are presented in Scientific Investigations Report (SIR) 2009-5270 titled *Hydrogeologic Framework, Groundwater Movement, and Water Budget in Tributary Subbasins and Vicinity, Lower Skagit River Basin, Skagit and Snohomish Counties, Washington.* The USGS also developed a detailed numerical ground water flow model of a large portion of the lower Skagit River drainage, including Carpenter and Fisher Creek subbasins. Details of the USGS ground water flow model are presented in SIR 2010-5184 titled *Numerical Simulation of the Groundwater-Flow System in Tributary Subbasins and Vicinity, Lower Skagit River Basin, Skagit and Snohomish Counties, Washington.* 

The following is a summary of the regional geologic/hydrogeologic setting of the area in the immediate vicinity of the Sun Peaks Estates, as presented in the above-referenced USGS reports. Pertinent geologic and hydrogeologic details of the area in the vicinity of the Sun Peaks Estates, including contours of ground water elevations in the bedrock aquifer that underlies the project site, are also shown on Figure 1. A generalized geologic cross section of the Sun Peaks Estates site, based on subsurface conditions presented on water well reports for the on-site wells and the in-field generated data, is presented on the "Geologic Cross Section A – A'," Figure 3.

- The ground surface at the Sun Peaks Estates and in the immediate surrounding area is covered by a layer of low-permeability glacial till sediments that are underlain at a relatively shallow depth by Chuckanut Formation bedrock.
- The glacial till sediments appear to be a few tens of feet thick in the vicinity of the site and generally consist of various amounts of clay, silt, sand, gravel, cobbles, and boulders. The till sediments are dense, have a low permeability, and are considered to act as a confining unit, not an aquifer, by the USGS (SIR 2009-5270).
- The Chuckanut Formation consists of alternating intervals of coarse-grained (sandstone and minor conglomerate) and fine-grained (mudstone, fine-grained sandstone, and siltstone) deposits. The USGS reports indicate that fractured/permeable portions of the Chuckanut Formation form a "Sedimentary Aquifer (OEc)."
- The Sedimentary Aquifer present within the fractured/permeable portions of the Chuckanut Formation deposits underlies the Sun Peaks Estates. The aquifer is unconfined where it crops out and can be confined in areas where it is fully saturated and covered by glacial sediments. Also fine-grained bedrock intervals within the Sedimentary Aquifer may produce local confined conditions.
- The USGS field-located 10 wells completed within the Sedimentary Aquifer located within roughly 3 miles of the Sun Peaks Estates site, determined their approximate ground surface elevations using Light Detection and Ranging (LiDAR) information, and field-measured depths to water in the wells on several occasions (SIR 2009-5270). Copies of water well reports for the 10 field-located USGS wells are included in Attachment A.
- The ground water elevation data obtained from the USGS wells was used to develop contours of ground water elevations in the Sedimentary Aquifer, as shown on Figure 1. The USGS regional ground water data indicates the following:
  - i. The regional ground water flow direction in the Sedimentary Aquifer beneath the

Sun Peaks Estates site is to the south towards the Stillaguamish River basin (Figure 1).

- ii. The depth to ground water in the USGS monitored wells ranged from approximately 24 feet to over 140 feet below the ground surface (Attachment A). All depths referenced in this report are relative to ground surface unless otherwise noted.
- iii. Ground water in the Sedimentary Aquifer is at an elevation of roughly 500 feet above mean sea level beneath the Sun Peaks Estates (Figure 1, SIR 2009-5270).

# Site-Specific Geology and Hydrogeology

The 12 domestic wells drilled at Sun Peaks Estates range in depth from 42 feet to 425 feet and are completed within fractured, water-bearing sedimentary bedrock. A representative of AESI and John Rose of Ecology field-located and measured the depths to ground water in 11 of the 12 on-site wells on August 3, 2012. They were unable to locate the well on Lot 10 during their August 3 site activities. The specific location of each wellhead was determined using a handheld near-survey grade Trimble GeoXT GPS with a hurricane antenna provided by Ecology. The depths to water were measured using an Olympic well probe model 500. A representative of AESI returned to the site on August 8 and field-located the well on Lot 10. The depth to ground water in the Lot 10 well was measured using a Waterline well probe and the approximate location of the wellhead was determined using a hand-held Garmin GPS unit and a review of historical aerial photographs.

The ground surface elevation at each wellhead was determined from LiDAR elevation information (Snohomish County 2003 flight) and the field-generated GPS location data. The ground surface elevation, measured casing stickup, and depth to ground water data were used to estimate the elevation of ground water in each well. A summary of well construction, location, and water level details for the on-site wells is presented in Table 1. Copies of the water well reports for each well is included in Attachment A. The approximate location of each well at the Sun Peaks Estates site is shown on Figure 2.

The wells completed at the Sun Peaks Estates site all appear to have encountered roughly 25 feet (Lot 11) to 80 feet (Lot 9) of relatively dense, low-permeability glacial till overlying sedimentary bedrock (Attachment A, Figure 3). Ground water was not indicated as being encountered in the overlying glacial till sediments at the site by the water well drillers (Attachment A). The bedrock consists of a fine-grained upper sediment package that extended to depths of roughly 120 feet to 170 feet and was described as consisting of fine-grained sandstone, shale, and siltstone (Attachment A, Figure 3). The upper bedrock unit is underlain by what was typically described as gray coarse sandstone with minor layers of shale, siltstone,

and fine-grained sandstone, which is referred to as the lower bedrock unit for the purposes of this report (Attachment A, Figure 3). The on-site wells were constructed with 6-inch-diameter steel casing that was extended through the glacial till sediments and a minimum of 3 feet into the top of the underlying bedrock with the exception of the Lot 1 well, where the 6-inch casing only penetrated the bedrock approximately 1 foot (Attachment A). PVC liners (4.5- to 5.0-inch-diameter) were installed to the completion depths of the wells located on Lots 3 through 12 (Attachment A, Figure 3). The PVC liners were slotted to allow the entry of ground water through the open areas (Attachment A, Table 1). The wells installed on Lots 1 and 2 were completed as open-end casing without PVC liners.

Nine of the on-site wells (Lots 3, 4, 5, 6, 7, 8, 9, 11, and 12) appear to intercept water-bearing, fractured sandstone in the lower bedrock unit at depths of greater than 140 feet below the ground surface (Table 1, Figure 3). The depths to ground water in eight of the wells ranged between approximately 145 feet (Lot 3) and 177 feet (Lot 12), which correspond to a rough elevation range of 502 feet to 517 feet above mean sea level (Table 1, Figure 3). The ground water elevation measured in the well located on Lot 9 was approximately 580 feet above mean sea level (Table 1). With the exception of the Lot 9 well, the range of ground water elevations in the wells completed in the lower bedrock unit at the Sun Peaks Estates site correspond closely to the USGS estimated elevation of 500 feet for the Sedimentary Aquifer at the site (Figures 1 and 3, Table 1).

The wells on the remaining three lots (Lots 1, 2, and 10) appear to intercept localized shallow water-bearing fractures in the upper bedrock unit that begin at depths of roughly 40 to 60 feet (Table 1, Figure 3). The depth to ground water measured in the shallow wells in August 2012 ranged from less than 10 feet (Lot 2) to approximately 20 feet (Lot 10), which correspond to a range in elevation from roughly 641 feet to 622 feet above mean sea level (Table 1, Figure 3).

Yields from the on-site wells, as reported by the well drillers on the water well reports, range from approximately 1.5 gallons per minute (gpm) to 35 gpm and appear to be adequate for single-family domestic use (Attachment A). Reported yields for the three wells completed in the upper bedrock unit are an average of roughly 3.5 gpm. Yields from the wells completed in the lower bedrock unit are reported as an average of approximately 11 gpm (Attachment A).

Table 1 Summary of Well Location and Ground Water Elevation Data Sun Peaks Estates - Snohomish County

					_		Ground	Elevation				Depth		
Lot No.	Unique ID	Date	Owner	Time	Latitude <sup>1</sup>	Longitude <sup>1</sup>	GPS <sup>1</sup>	LiDAR <sup>2</sup>	Well Depth	Open Area	Casing Stickup	to Water	Static Elevation <sup>3</sup>	Comments
1	BAT220	8/3/12	Yencich	15:25	48.282636	122.256164	639.99	647.08	48	46-48	1,17	15.42	632.83	House well - recent pumping
2	BAT494	8/3/12	Stonnell	15:15	48.282631	122.256028	642.45	648.06	42	41.5-42	1.33	8.67	640.72	
3	BAT493	8/3/12	Rosenberg	15:00	48.282621	122.255359	648.18	655.63	205	60-205	1.92	144.58	512.97	
4	BAT124	8/3/12	Barborinas	14:15	48.282557	122.253992	667.45	670.68	425	325-425	1.83	165.58	506.93	
5	BAT246	8/3/12	Burton	16:30	48.283683	122.253234	671.65	674.89	240	140-240	1.25	168.33	507.81	House well
6	BAT247	8/3/12	Burton	16:00	48.284099	122.254550	645.86	661.14	207	147-207	2.67	156.67	507.14	Irrigation well - recent pumping
7	BAT248	8/3/12	Halgren	17:30	48.284086	122.254642	671.43	660.24	226	155-226	2.75	146.08	516.91	
8	BAT229	8/3/12	Bennett	15:50	48.283866	122.255625	641.17	650.59	200	140-160	0.83	149.42	502.00	House well
9	BAT234	8/3/12	Bateman	15:35	48.283502	122.256587	644.02	650.33	200	140-200	1.50	72.50	579.33	
10	BAT466	8/8/12	Spane⁴	18:00	48.284228	122.258039	-	639.59	80	40-80	1.70	19.62	621.67	
11	BAT492	8/3/12	Sundberg	17:00	48.285272	122.255883	676.99	679.19	223	160-223	3.00	176.50	505.69	
12 .	BAT491	8/3/12	Givens	17:20	48.285245	122.255573	678.22	681.64	276	170-176	0.92	175.50	507.06	House well

### Notes

<sup>&</sup>lt;sup>1</sup> Latitude, longitude, and elevation determined using Ecology GPS unit on August 3, 2012, NAVD88 datum.

<sup>&</sup>lt;sup>2</sup> LiDAR data from NW Snohomish County 2003 flight, NAVD88 datum.

<sup>&</sup>lt;sup>3</sup> Ground water elevations based on LiDAR ground surface elevations plus field-measured casing stickup.

<sup>&</sup>lt;sup>4</sup> Location determined using a hand-held GPS unit and check using Google Earth aerial photographs.

# DISCUSSION AND CONCLUSIONS

# General

The regional USGS study and site-specific data indicate that Sun Peaks Estates is underlain by what the USGS refers to as the Sedimentary Aquifer which is located within fractured portions of the Chuckanut Formation bedrock at depths greater than approximately 140 feet. The Sedimentary Aquifer is separated from the ground surface at the site by several 10s of feet of dense, low-permeability glacial till and/or un-fractured low-permeability bedrock. The site-specific data does not indicate that there are water-bearing zones in the glacial till or that the Sedimentary Aquifer is in hydraulic continuity with surface waters in the immediate vicinity of the site. This lack of hydraulic continuity is further demonstrated by the seasonal nature of the tributary stream that flows through the Sun Peaks Estates site. AESI's on-site observations and discussions with local landowners indicates that the seasonal stream channel which bisects the Sun Peaks Estates is generally dry (no surface water or ground water discharge/seepage) between roughly July and October of each year. As discussed below, ground water in the Sedimentary Aquifer immediately beneath Sun Peaks Estates does not appear to be a source of water to Fisher Creek or the Fisher-Carpenter Creek subbasin.

Nine of the on-site wells (Lots 3, 4, 5, 6, 7, 8, 9, 11, and 12), including five of the appellant wells (Lots 3, 4, 7, 9, and 11), are completed at depths greater than 140 feet and appear to be intercepting water from the regional Sedimentary Aquifer. The water level elevations in eight of these wells correspond very well with the ground water elevations in the regional Sedimentary Aquifer system described by the USGS (Figure 1, Table 1). The water level in the well located on Lot 9 is approximately 60 feet higher in elevation than the water levels in the other eight wells (Figure 3). It is possible that ground water from a higher fracture zone in the bedrock is migrating down the outside of the 6-inch-diameter steel casing and influencing the ground water level in this well. However, it should be noted that the ground water in the well on Lot 9 is hydraulically separated from the ground surface by over 70 feet of low-permeability bedrock and glacial till (Figure 3).

The data presented in the USGS reports indicate that the regional ground water flow direction in the Sedimentary Aquifer beneath the Sun Peaks Estates is toward the south. Therefore, removing ground water from the five wells (Lots 3, 4, 7, 9, and 11) completed in the Sedimentary Aquifer beneath the Sun Peaks Estates site at the relatively low rate of 350 gpd per well could ultimately cause a potential decrease in ground water throughflow to the Stillaguamish River basin; however, these withdrawals would not have a negative impact on ground water quantity or flow direction in the Fisher Creek subbasin, or result in a diminishment of surface water flow in Fisher Creek. The Sedimentary Aquifer beneath Sun Peaks Estates is not a source of water to Fisher Creek or the Fisher-Carpenter Creek subbasin.

There are three shallow on-site wells (Lots 1, 2, and 10), including two appellant wells (Lots 2 and 10), that appear to be intercepting relatively shallow localized, water-bearing fracture zones within the upper portion of the Chuckanut Formation. The shallow fracture system appears to be hydraulically separated from the ground surface by a few 10s of feet of low-permeability glacial till sediments. Water level information for the three shallow wells indicate confined conditions with static water levels near and, in one well (Lot 1), seasonally above the ground surface. The direction of ground water flow in the shallow fracture system cannot be determined based on the limited available data. Although the shallow fracture system appears to be hydraulically separated from surface water sources in the immediate vicinity of Sun Peaks Estates, it cannot be determined if a portion of the ground water flowing through the upper fracture system ultimately provides recharge to Fisher Creek. Furthermore, it cannot be determined without further study if withdrawals from the three shallow wells would negatively impact ground water flow within the Fisher-Carpenter Creek subbasin or diminish surface water flow in Fisher Creek.

# MITIGATION PLAN

# No Negative Net Impact from Sun Peaks Estates Appellant Wells

Five of the seven appellant wells (Lots 3, 4, 7, 9, and 11) will withdraw water from the Stillaguamish River basin, and ultimately provide ground water recharge to the Fisher-Carpenter Creek subbasin by virtue of their septic systems and possible outdoor uses. As only two of the seven appellant wells (Lots 2 and 10) could potentially decrease ground water recharge in the Fisher-Carpenter Creek subbasin, with the remaining five wells adding water to the subbasin, there is no overall potential negative net impact to ground water recharge/surface water flow in the Fisher Creek subbasin from the combined use of the appellant wells at the Sun Peaks Estates. The concept of no negative impact to or diminishment of ground water flow/surface water recharge in the Fisher-Carpenter Creek subbasin from the combined use of the seven appellant wells is discussed in detail below.

Five of the seven appellants (owners of Lots 3, 4, 7, 9, and 11) have wells that are completed in the deep regionally extensive Sedimentary Aquifer. These wells are intercepting ground water that provides recharge to the Stillaguamish River basin and do not appear to have hydraulic continuity with the Fisher-Carpenter Creek subbasin. Water Resource Inventory Area (WRIA) 5 – Stillaguamish River basin reservation system for permit-exempt domestic wells (WAC 173-505-090) accounts for water use at a rate of 350 gpd and limits outdoor water use to the watering of 1/12 acre for domestic exempt wells, as more particularly stated in the rule. The 350 gpd can be reduced to 175 gpd if the residence is served by an on-site septic system located in the same WRIA, which is not the case for the appellant's properties at Sun Peaks Estates. Therefore, the maximum potential negative impact to ground water recharge/surface water in the Stillaguamish River basin is 350 gpd per well, which is equal to an annual total of approximately 0.39 acre-feet (ac-ft) per well or a maximum of 1.95 ac-ft for the five wells.

Unmitigated reservation water is still available in the Stillaguamish River basin. Debit water for the total potential impact of 1.95 ac-ft per year from the use of the wells on Lots 3, 4, 7, 9, and 11 needs be accounted for in the Stillaguamish River reservation.

As previously discussed, the Stillaguamish River basin reservation system assumes that of the 350 gpd removed from a well, 175 gpd is returned to the hydrogeologic system as septic return flow. Therefore, the five wells located on Lots 3, 4, 7, 9, and 11 will be providing a total of 875 gpd (0.98 ac-ft per year) of additional ground water recharge to the Fisher-Carpenter Creek subbasin that was obtained from the Stillaguamish River basin.

Two of the seven appellant wells (Lots 2 and 10) are completed in relatively shallow localized fracture zones with depths to static water that are less than roughly 50 feet. Due to their shallow completion depths and the relatively shallow depth to ground water, the use of these wells, without drilling them deeper, has a slight potential to negatively impact ground water recharge in the Fisher-Carpenter Creek subbasin and diminish surface water flow in Fisher Creek. The maximum potential impact to ground and/or surface water in the Fisher-Carpenter Creek subbasin from the use of these wells is 175 gpd per lot, which is a total of 0.39 ac-ft per year.

In summary, the use of the wells completed on Lots 3, 4, 7, 9, and 11 will result in the import of an additional 0.98 ac-ft per year of ground water recharge from the Stillaguamish River basin to the Fisher-Carpenter Creek subbasin. The use of the wells on Lots 2 and 10 could result in a decrease in ground water recharge in the Fisher-Carpenter Creek subbasin a maximum of 0.39 ac-ft per year. Therefore, the combined impact resulting from the use of the seven appellant wells is a net positive increase in ground water recharge to the Fisher-Carpenter Creek subbasin of 0.59 ac-ft per year. The importation of water from the Stillaguamish River basin from Lots 3, 4, 7, 9, and 11 totally offsets the maximum potential impact from the use of the wells located on Lots 2 and 10.

Accordingly, consistent with WAC 173-505-060(1)(c) requirements of monitoring and reporting, Lots 3, 4, 7, 9 and 11 will comply with the necessary and lawful conditions stated in WAC 173-505-090(2), and Lots 2 and 10 will also install a metering device consistent with Lots 3, 4, 7, 9 and 11, for reporting and monitoring. Pursuant to WAC 173-503-060(1)(c), for reporting and quality assurance/control, the Lots will report their metered use annually to Ecology, and agree to keep septic recharge on the properties or its equivalent quantities.

# Contingent Alternative Mitigation Plan

If and only if the above mitigation plan is lawfully determined by Ecology to be inadequate, the following contingent alternative mitigation plan is proposed.

The potential negative impact to ground water recharge in the Fisher-Carpenter Creek subbasin due to the use of the shallow wells located on Lots 2 and 10, though already offset by a net positive impact from Sun Peak Estates as an entirety, could also be eliminated if the shallow wells on Lot 2 and 10 were deepened and completed within the Sedimentary Aquifer. Based upon the hydrogeological assessment, the use of the Lot 2 and 10 wells modified in this manner (deepened) would result in removing ground water from the Stillaguamish River basin and would not result in any negative impact to ground water recharge in the Fisher-Carpenter Creek subbasin or a diminishment of flow in Fisher Creek, offset or otherwise.

Therefore, a proposed contingent alternative mitigation plan is as follows:

- 1. Remove the PVC liners installed in the wells located on Lots 2 and 10.
- 2. Drill the wells to depths greater than roughly 140 feet.
- 3. Confirm that the static water level elevations in the deepened wells are in the range of approximately 500 to 520 feet indicating that the wells are intercepting the regional Sedimentary Aquifer.
- 4. Install a new PVC liner in each well that is slotted in a manner which allows water from the deep Sedimentary Aquifer to enter the well.
- 5. Each owner of the deepened wells on Lot 2 and 10, in addition to the owners of Lots 3, 4, 7, 9 and 11, will also comply with the necessary and lawful conditions stated in WAC 173-505-090(2).

# LIMITATIONS

We have prepared this report for the use of the identified seven appellants in regard to the use of single-family domestic wells at the Sun Peaks Estates in Snohomish County. The conclusions and interpretations presented in this report should not be construed as a warranty of the subsurface conditions. Our conclusions and recommendations are based on our review of the information described in this report and our interpretation of best available science at the time of this reports preparation. Our experience has shown that soil and ground water conditions can vary significantly over small distances.

Within the limitations of scope, schedule, and budget, AESI attempted to execute these services in accordance with generally accepted professional principles in the field of hydrogeology at the time this report was prepared. No warranty, express or implied, is made.

We have enjoyed working with you and are confident that these recommendations will aid in the successful completion of your project. If you should have any questions or require further assistance, please do not hesitate to call.

Sincerely,
ASSOCIATED EARTH SCIENCES, INC.
Everett, Washington



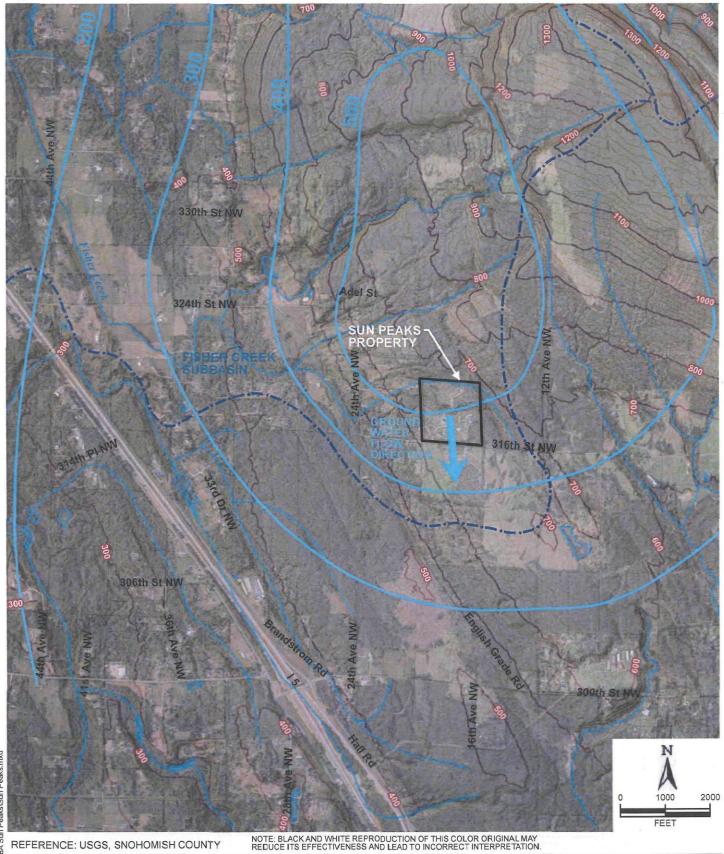
Charles S. Lindsay, L.G., L.E.G., L.Hg. Senior Principal Geologist/Hydrogeologist

Attachments:

Figure 1: Location Map

Figure 2: Plat Map

Figure 3: Geologic Cross Section A - A' Attachment A: Water Well Reports



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Associated Earth Sciences, Inc.





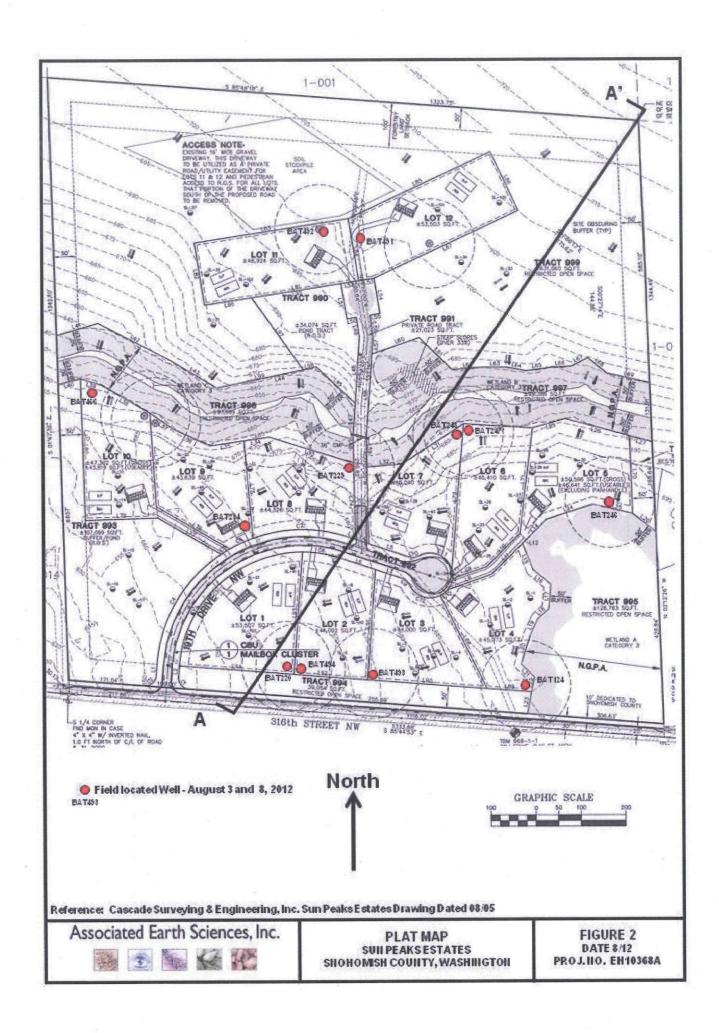


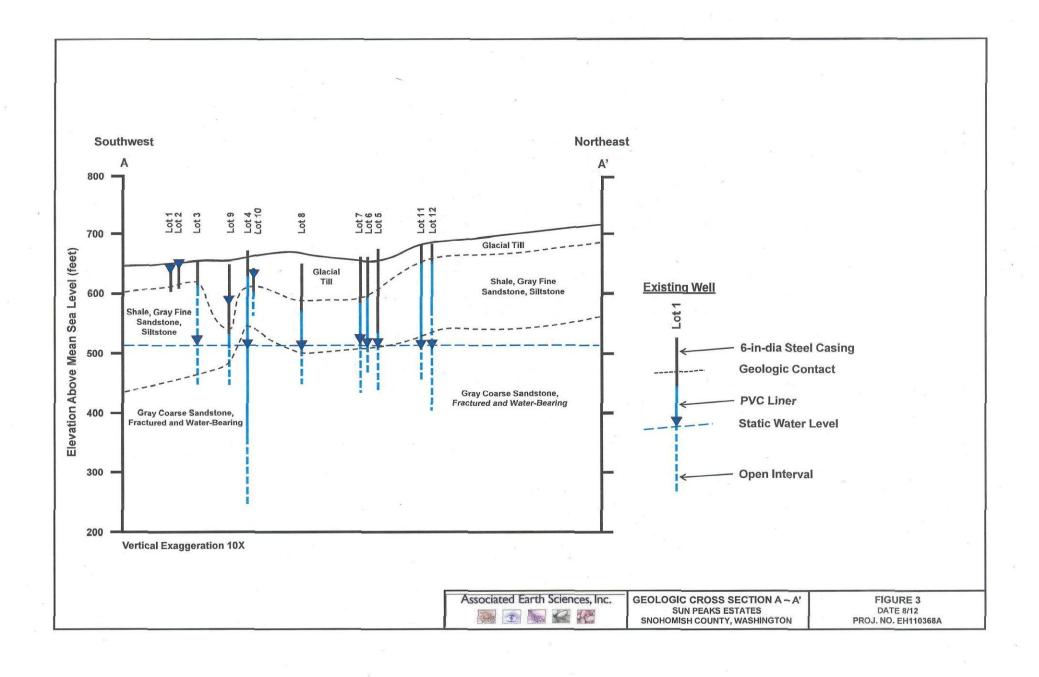




LOCATION MAP SUN PEAKS ESTATES SNOHOMISH COUNTY, WASHINGTON FIGURE 1 DATE 07/12

PROJ. NO. EH110368A





# ATTACHMENT A

Water Well Reports

ECY 050-1-20 (Rev 3/05).

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WELL CONSTRUCTION CERTIFICATION: 1 constructed and/or accept	ot responsibility for construction of this well, and	its compliand	e with all	
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Driller's Liconsul No.	Registration No. A 1011NOS GE M	ote 2	2808	
Henri Land a Kildin A france			_	

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11/11/10/10/11/11	0

# WATER WELL REPORT Original & 1" copy - Ecology, 2" copy - owner, 3" copy - driller

Construction/Decommission ("x" in circle)	Olique Lange will be rag ivo.	
onstruction Construction	Water Right Permit No.	and and William
O Decommission ORIGINAL INSTALLATION Notice	Property Owner Name Kruin Sand B	era
of Intent Number	Well Street Address 20+2 19+ Drue.	NW
PROPOSED USE: D'Domestic D Industrial D Municipal DeWater D Irrigation C Test Well D Other	City Stanwood County 5 ho ho	
TYPE OF WORK: Owner's number of well (if more than one)	Location 5 14-1/4 N 18 14 Sec 2 Twn 32 R 4	
New well	Lat/Long (s, t, r Lat Deg Lat Min/Sec	WM one
DIMENSIONS: Diameter of well 6 inches, drilled 42 ft.  Depth of completed well 42 ft.	Still REQUIRED) Long DegLong Min/S	
CONSTRUCTION DETAILS	Tax Parcel No. 010757 000 002 0	0
Casing	CONSTRUCTION OR DECOMMISSION PROCED	
Perforations:	Formation: Describe by color, character, size of material and structure, and nature of the material in each stratum penetrated, with at least one entry for information. (USE ADDITIONAL SHEETS IF NECESSARY.)	the kind and each change of
SIZE of perfsin. byin. and no. of perfsfromft. toft	MATERIAL FROM	ТО
Screens:	Black Duff 0	2
Type Model No.	Act (c)	
Diam. Slot size from ft. to ft. Diam. Slot size from ft. to ft.	fan Conglorman + Rock 2	12
Gravel/Filter packed:  Yes No Size of gravel/sand Materials placed from ft. to ft.	(-Bay conglormant 12	33
Surface Seal: A Yes A No To what depth? 18 R. Material used in seal Ben + No 1 + Child 5	Fruis Sandstone 7inc 33	41
Did any strata contain unusable water?   Yes No	Gran Fracture Sandstond 41	142
Type of water? Depth of strata	FILE	
Method of sealing strata off	A	T
PUMP: Manufacturer's Name	7	]
WATER LEVELS: Land-surface elevation above mean sea level ft.	<del> </del>	+
Static level 6 ft. below top of well Date 22210		1
Artesian pressure lbs. per square inch Date		1
Artesian water is controlled by		1
(cap, vaive, etc.)		
WELL TESTS: Drawdown is amount water level is lowered below static level Was a pump test made?   Yes  No  If yes, by whom?		1
Was a pump test made? ☐ Yes ☐ No If yes, by whom?  Yield: gal/min. with ft. drawdown after hrs.		
Yield: gal/min with ft. drawdown after hrs. Yield: gal/min with ft. drawdown after hrs.		
Recovery data (time taken as zero when nump turned off) (water level measured from well top to water level)		1
Time Water Level Time Water Level Time Water Level		
		-
Date of test 2 2 2 1 ()		
Date of test 2 2 3 1 0  Bailer test 5 gal /min. with 30 ft. drawdown after 2 hrs.		
Airest gal/min. with stem set at ft. for hrs.		
Artesian flow g.p.m. Date		
Temperature of water Was a chemical analysis made? Yes CI No		
1 embelsing of warm 100 a dummer and 200 mater. \$ 100 materials	Start Date 2 13 10 Completed Date 2	2310
VELL, CONSTRUCTION CERTIFICATION: I constructed and/or according to the information well construction standards. Materials used and the information	cept responsibility for construction of this well, and its compliant reported shows are true to my best knowledge and belief	ance with all
Driller   Engineer   Trainee Name Print:   Driller   Engineer   Trainee Name Print:   Driller   Driller	Drilling Company A2 Drilling on Ping	Ina
filler/Engineer/Trainee Signature	Address 22813 60+1 Dru- 14	
riller or uninear license No. 129 7	City State Zin Sta Navoci	

CURRENT

Registration No. AS DY 10 1942 Date 2 24/10

ITTRAINEE,

Driller's Licensed No. Driller's Signature

WATER WELL REPORT  Original & 1" copy - Ecology, 2st copy - owner, 3rt copy - driller  Construction/Decommission ("x" in circle)  Construction  Decommission ORIGINAL INSTALLATION Notice  of Intent Number  PROPOSED USE: Domestic   Industrial   Municipal   DeWater   Irrigation   Test Well   Other    TYPE OF WORK: Owner's number of well (if more than one)  New well   Deconditioned   Method:   Dug   Bored   Driven   Deepened   Ecable   Rotary   Detted    DIMENSIONS: Diameter of well   inches, drilled   20 Sft.  Depth of completed well   20 Sft.	CURRENT Notice of Intent No. Wall 19 Tag No. B. + 493  Water Right Permit No.  Property Owner Name Krum Sund Bry 9  Well Street Address 20+3 19 May 2		
Casing & Welded 6" Diam from +2 ft to 43 ft.			41.1
Installed:   Liner installed 4/5" Diam. from -4/ ft. to 205 ft.	CONSTRUCTION OR DECOMMISSION PROCEDURE  Formation: Describe by color, character, size of material and structure, and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of information. (USE ADDITIONAL SHEETS IF NECESSARY.)		
	MATERIAL	FROM	· TO
Screens: D Yes D No D K-Pac Location	Black DUFF silty	0	2
Manufacturer's Name	conglor mant	2	14
Type Model No.  Diam. Slot size from ft to ft.	Rock silt clay		1 77
Diam Slot size from ft. to ft.	Gray conglormant	14	36
Gravel/Filter packed: D Yes DKNo D Size of gravel/sand			-
Materials placed from ft. to ft.	Gray 71nx Sand Stone	36	130
Surface Seal: DI Yes D No To what depth? 18 ft.	01-17-3000		122
Material used in seal Bentinoits Chips	Hand Dim to Licenst	130	160
Did any strata contain unusable water?   O Yes Z No	Hard Dan Gray	120	150
	7		<del> </del>
ype of water? Depth of strata	Frail 7in + 50th Oston e	150	203
Nethod of sealing strata off			
Type: Manufacturer's Name 70	21ant Brown shale	203	205
			1
WATER LEVELS: And-surface elevation above mean sea level  Static level  6. below top of well Date 12960  Antesian pressure  Ibs. per square inch Date  Artesian water is controlled by  (cap, valve, etc.)			
WELL TESTS: Drawdown is amount water level is lowered below static level		i	
Was a pump test made?   Yes No If yes, by whom?			
Yield: 180 gal/min with 140 ft drawdown after hrs. Yield: 90 gal/min with 70 ft drawdown after hrs. Yield: 90 gal/min with 70 ft drawdown after hrs.	itest		
Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)  Time Water Level Time Water Level Time Water Level	<b>*</b>		
======================================			
Date of test			
Bailer test 1,5 gal, min. with 144 ft. drawdown after 3 hrs.			L
Airlest gal/min, with stem set at ft. for hrs.			
Agesian flow g.p.m. Date 12910			
Temperature of water Was a chemical analysis made?	•		
1 disherance of ware	Start Date 1 101 10 Complete	ed Date	31/20

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief. riller D Engineer D Traince Name (Print) Dau D Qut Irula & POPOV 120 Driller/Engineer/Trainec Signature Driller or trainee License No. City, State, Zip Contractor's IT TRAINEE, Driller's Licensed No. Registration No Driller's Signature

Ecology is an Equal Opportunity Employer.



# WATER WELL REPORT

CURRENT Griginal & 1" copy - Ecology, 2" copy - pwner, 3" copy - driller Erciesi Notice of Intent No. WE07375 Construction/Decommission ("x" in circle) Unique Ecology Well ID Tag No. BAT 124 Construction Decommission ORIGINAL INSTALLATION Water Right Permit No. Notice of Intent Number Property Owner Name SUNDBERG HOMES PROPOSED USE: SE Domestic industrial l Municipal DeWater I Imigation Test Well Other Well Street Address LOT 4 19TH DRIVE NW TYPE OF WORK: Owner's number of well (if more than one) City STANWOOD County SNOHOMISH X New well Reconditioned Method: Dag Bored Driven Location SE 1/4-1/4 SE 1/4 Sec 2 Twn 32 R 4 BMM E Check ☐ Jetted Despened. Cable Rotary Depth of completed well 425 DIMENSIONS: Diameter of well 6 WWW One (s, t, r Still REQUIRED) CONSTRUCTION DETAILS Lat/Long Lat Deg Lat Min/Sec Casing Welded 6
Installed: Timer installed 4.5 Diam from 0 ft. to 43 \* Diam. from 5 A. to 425 Long Deg \_\_\_ Long Min/Sec Threaded " Diam. From \_\_\_ ft. 10 Tax Parcel No. (Required) 010757-000-004-00 Perforations: Yes No CONSTRUCTION OR DECOMMISSION PROCEDURE Type of perforator used SKILLSAW Formation: Describe by color, character, size of material and structure, and the kind and SIZE of peris 1/8 in. by 6 in. and an. of peris from 325 ft. to 425 ft. above of the material in each stratum penetrated, with as least one entry for each change of information. (USE ADDITIONAL SHEETS IF NECESSARY.) Screens: Yes ENo DK-Pac Location MATERIAL FROM TO Manufacturer's Name BROWN CLAY AND GRAVEL B Type \_\_\_ Model No. GRAVEL SAND AND BROWN SILT 21 Slot size 4 from ft. to Slot size BROWN CLAY AND GRAVEL 2] from 24 fl. to Gravel/filter pecketh T Yes X No Size of gravel/sand GRAVEL SAND AND BROWN SILT 24 30 GREY CLAY SILT SAND AND GRAVEL 30 36 Materials placed from 1.00 BLACK SHALE 36 48 Surface Seal: R Yes No Towkst depth? 18 Material used in seal BENTONTE BROWN SILTSTONE 48 130 GREY SANDSTONE 130 210 Did any strata contain nousable water? TYS X No BROWN SULTSONE 235 210 Type of water? Depth of strata GREY SANDSTONE 235 475 Method of scaling strata off PUMP: Manufacturer's Name WATER LEVELS: Land-surface elevation above mean sea level Static level 169/ ft. below top of well Date 10/24/07 Artes im pressure The per square inch Date\_\_ Artesian water is controlled by (cap, valve, etc.) WELL TESTS: Drawdown is amount water level is lowered below static level Was a pump test made? Tes No If yes, by whom? gel/min. with ft. drawdown after
gal/min. with ft. drawdown after
gal/min. with ft. drawdown after Yield: Yield: Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level) Time Water Level Time Water Level Time Water Level Date of test \_\_ gal./min. with II. drawdown after Bailer Test Ašnest 35 gal Jrain, with stem set at 425 ft. for 1 hrs. Astesian flow \_\_ gp.st. Date Start Date 10/22/07 Completed Date 10/24/07 Temperature of water Was a chemical analysis made? Yes No WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief. niller Engineer Trainee Name (Print) RALPH RIGGLES Drilling Company DAHLMAN PUMP & WELL DRILLING INC Driller/Engineer/Trainee Signature \_ Address PO BOX 422

Driller's Signature: ECY 050-1-20 (Rev 4/07)

Driller or trainee License No. 2043

IF TRAINEE: Driller's License No:

Ecology is an Equal Opportunity Employer

98233

Date 10/24/07

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City, State, Zip BURLINGTON

Registration No. DAHLMPW123LC

Contractor's

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	Birdon Lot 5 and		1-1
317277	132 32 -	16-9	1
WATER WELL REPORT	CURRENT	e.i	
Original & I" copy - Ecology, Zot copy - owner, 3rd copy - driller	Notice of Intent No. 12685	71	
E ( 0   0 6 i Construction/Decommission ("x" in circle)	Unique Ecology Well ID Tag No	+24	6
& Construction	Water Right Permit No.		Living.
O Decommission ORIGINAL INSTALLATION Notice	Property Owner Name Sun Berg L	tome	SES   55
of Intent Number	Well Street Address Lot 5, 31720		·Nul
PROPOSED USE: Exponestic   Industrial   Municipal	City Skinwood County 52		
DeWater Infigation Test Well Other	Location 5/3/4-1/4/1/3/4 Sec 2 Twn 3/2		
TYPE OF WORK: Owner's number of well (if more than one)	Location 12214-114 Sec 2 141192	WWI	d one
New well	Lat/Long (s, t, r Lat Deg La	Min/Sec _	
DIMENSIONS: Diameter of well 6 inches, drilled 240ft.	Still REQUIRED) Long Deg Lo	na Min/Se	
Depth of completed well	Tax Parcel No. 010757 00000		
CONSTRUCTION DETAILS  Casing   Welded   6 " Diam. from +   ft. to 24/ ft.	Tax Parcel No. 618 15 7 00000	300	
Sentalled to I iner installed 44 " Diam from C.C. 8 to C.L.C.) 8	CONSTRUCTION OR DECOMMISSIO	N PROCEDU	RE
O Threaded Diam. from ft. to ft.	Formation: Describe by color, character, size of material and		
Type of perforator used 59W	nature of the material in each stratum penetrated, with at least information. (USE ADDITIONAL SHEETS IF NECE		ich change of
SIZE of peris 3/16 in by 4 in, and no. of peris 100 from 140 ft. to 240	MATERIAL	FROM	то
Screens:	tan top silty same	O	3
Manufacturer's Name	tan silty saw 7 inc	3	17
Diam. Stat size from ft. to ft.	Gray Firm silty Gravel	13	32
Diam. Slot size from ft. to ft.	Gray corse SILT Sand	32	65
Gravel/Filter packed: Q Yes W No Q Size of gravel/sand	Gray Fine Sand Stone	98	175
Surface Seal: # Yes D No To what depth? 20 A.	cray medium sandstone		198
Material used in seal Bentinoite chips	1420 190		1
Did any strata contain unusable water?   ☐ Yes  ☐ No	Fine cray saw stone	198	240
Type of water? Depth of strata			
Method of sealing strata off			
PUMP: Manufacturer's Name GOUIO Type: 30B H.P. 3			-
WATER LEVELS: Land-surface elevation above mean sea level fl.			
Static level 175 ft. below top of well Date 92508			
Anesian pressure lbs, per square inchr Date	\$400 mar. 1740 0000 •	0.07.45	
Artesian water is controlled by (can valve etc.)			
WELL TESTS: Drawdown is amount water level is lowered below static level	THE PARTY NAME OF THE PARTY NA		
Was a pump test made? Of Yes O No If yes, by whom? Ducio	(2 (2 (Lab))	-45 1 13	
Yield: 5 gal/min. with 30 ft. drawdown after / brs. Yield: 3 gal/min. with 90 ft. drawdown after 2 brs.	21 4 31		
Yield: gal/trin with ft, drawdown after hrs.	How rate 31-pm		
Recovery thise same token as zero when pump turned off) (water level measured from well top to water level)			
Time Water Level Time Water Level Time Water Level	RECEIVE		
	KECEIVE		
	OCT 1 7 2008		1 1
Date of test	55, 17, 2000		
Bailer test 5 gal/min. with 45 ft. drawdown after 30 Min	DEPT. OF ECOLO	GY	

Completed Date 9 2508

WELL CONSTRUCTION CERTIFICATION: I constructed and/or acc Washington well construction standards. Materials used and the information	
Driller D Engineer O Traince Name Print Drus Quel was ~	Drilling Company AIDrilling and Diggin In
Driller/Enginees/Trainee Signature	Address 22413 GOTA Drux
Driller or trainee License No. 1297	_ City, State, Zip _ Stanwood
If TRAINEE, Driller's Liceused No.	Contractor's  Registration No. A1 Dv 1019428E Date 10108
Driller's Signature	Ecology is an Equal Opportunity Employer.

Start Date \_

9108

Aintest\_\_\_\_gal/min. with stem set at \_\_\_\_\_ft. for \_\_\_\_hrs. Artesian flow g.p.m. Date Temperature of water \_\_\_\_\_ Was a chemical analysis made? 

☐ Yes ☐ No

WATER WELL REPORT Original, & Copys - Leadings, T' expy - certilar Construction Observation O Decornamission (" 'x' 'in circle') S Construction O Decornamission ORIGINAL INSTALLATION Notice of Intern Number  PROPED ISSE   Downial   Industrial   Manicipal   Manicipal   Decornamission ORIGINAL INSTALLATION Notice of Intern Number   PROPED ISSE   Downial   Industrial   Manicipal   Decornamission ORIGINAL INSTALLATION Notice of Intern Number   PROPED ISSE   Downial   Industrial   Manicipal   Decornamission ORIGINAL INSTALLATION Notice of Intern Number   PROPED ISSE   Downial   Industrial   Decornamission Original   Decornamission ORIGINAL INSTALLATION Notice of Intern Number   PROPED ISSE   Downial   Industrial   Decornamission Original   D				
WATER WELL REPORT Original & 1" may - Techip; 2" copy - evalue, 2" capy - evalue Construction Observation Observat		· [ 17" 10 " N. )		
WATER WELL REPORT TOTAL	3799/8	20	1-46	-2H
William Born Well Day Relegy, Teapy - areas, Yeapy - artist FE 1 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2				0,11
Unique Ecology Well 1D Tág No. Sat 25 7  Water Right Permit No.  Decomstruction  O Decommission ORIGINAL INSTALLATION Notice of Intert Number  PROPOSED USE:   Spennesis   Indicators   Otto Well of Detar Well   Otto Well of Detar Well   Otto Well of Detar Well   Otto Wel		Notice official No. 111752	168	
Construction Decommission (** "in circle)    Construction   Constr	Original & I" copy - Ecology, 2" copy - owner, 3" copy - driller			
Water Right Permit No.  Decommission OR/GINAL INSTALLATION Notice of Intern Number  PROPOSED JUSE:   Dementic   Industry   O Medicipal   Device   Device   Distinguist of Test Well   Other   TYPE-OF WORK: Owner's number of well (if more than one)   Device   Device   December   Designation   Device   Development   December   Designation   Device   Development   December   Designation   Development   Development   December   Designation   Development   Development   December   Designation   Development   Development   December of well (if more than one)   Development   Development   December of well (if more than one)   Development   Development   December of well (if more than one)   Development   December of well (if more than one)   Development   December   December of well (if more than one)   Development   December   December of well (if more than one)   Development   December   December of well (if more than one)   Development   December   December of well (if more than one)   Development   December   December of well (if more than one)   Development   December   December of well (if more than one)   Development   December of well (if more t	Construction Decommission ("'r" in circle)	Unique Ecology Well ID Tag No	+ 2	57
PROPROSED USE:   Demential   Industrial   Debrus   Debrus				
FROPOSED USE:     Dementic     Industrial     Other			P. 7	-
PROPOSED USE:   Demestic   Industrial   Manicipal   City   Demestic   Tripston   Tat Well   Other   City   City   Shahamil   Shaha				
TYPE-OF WORK: Owner's number of well (if more than one)  TYPE-OF WORK: Owner's number of well (if more than one)  New well Decembrical Adeched: Dog Bored Discontinued Adeched: Dog Bored Discontinued Adeched: Dog Bored Dog Bo	9 7/2011 712/100	Well Street Address 20th, 31826	KITT	Drive
TYPE-OF WORK: Owner's number of well (if more than one)    New well		City Stan wood County 51	ohom	15 h
Severall   Decondational   Adeched:   Day   Botto   Divers   Decondational	D Dewald D lingston D list wat C Direr			
Dimension   Dimension of well   District	TYPE-OF WORK: Owner's number of well (if more than one)	Location 2814-1/4/012/4 Sec 2 1 Wind	WW	M one
DIMENSIONS: Diameter of well		Lat/Long (s. t. r Lat Deg Lat	Min/Sec	
Depth of completed well		G. W. DECKUDED)		
CONSTRUCTION DETAILS  Caring twided Comments of the Comment of the		Still REQUIRED) Long Deg Long	ng Min/Se	c
Construction or Describe by Color, character, size of marcial and structure, and the kind and nature of the material and structure, and the kind and nature of the material and structure, and the kind and nature of the material and structure, and the kind and nature of the material and structure, and the kind and nature of the material and structure, and the kind and nature of the material in each spapem generoted, with at least one carry for each change of information. (USE ADDITIONAL SHEETS IF NECESSARY.)  MILE IN THE STATE OF THE COLOR OF THE		Tax Parcel No. 3204102 40011 00	200	)
Installed:				
Trevaded   Diarn, from   R. to   Refrontance   No.	Installed: 1. Liner installed 4 3 " Diam. from - 5 ft. to 207 ft.	CONSTRUCTION OR DECOMMISSION	PROCEDI	JRE
Type of perforator used Saluding in the perfect of the material in each statum generated, with at least one early for each change of information: (USE ADDITIONAL SHEETS IF NECESSARY.)  SIFER A PORTITIONAL SHEETS IF NECESSARY.)  MATERIAL  FROM TO  STREET IF NECESSARY.)  MATERIAL  FROM TO  AMERICAL SHORT IF NECESSARY.)  AMERICAL SHORT IF NECESSARY.  AMERICAL SHORT				W.C. 6752 98-1 5004
STREOL perfs.				ach change of
Screens:	SIZE of perfs 3/16 in by 41 in and no of perfs 71 from 1417 to 2007			T
Macediacturer's Name Type Diam. Sict size from R to A Sol Saudity O 3 Diam. Sict size from R to A Sol Saudity O 3 Diam. Sict size from R to A Sol Saudity O 3 Diam. Sict size from R to A Sol Saudity O 3 Diam. Sict size from R to A Sol Saudity O 3 Macedials placed from R to A Sol Saudity O 5 Gravelf-Piler packed: U Yes O No D Size of gravel/sand Materials placed from R to A Sol Saudity O 5 Surface Sail: (Yes D No To what depth: 2 A Sol Saudity O 10 Material used in seal D P N D N To what depth: 2 A Sol Saudity O 10 Material used in seal D P N D N To what depth: 2 A Sol Saudity O 10 Material used in seal D P N D N To what depth: 2 A Sol Saudity O 10 Material used in seal D P N D N To Was depth: 2 A Sol Saudity O 10 Material used in seal D P N D N To Was depth: 2 A Sol Saudity O 10 Material used in seal D P N D N To Was depth: 2 A Sol Saudity O 10 Material used in seal D P N D N To Was depth: 2 A Sol Saudity O 10 Material used in seal used of sealing strata of T PUMP: Managery N Name Type of water: Name Type SuB WELL TESTS: Drawdown is amount water level is lowered below static level Was a pump test made? D Yes D No If yes, by whom D D D Weld: gall min. with A depaydown after A Sol Sub-P N D Water Level Time Water Level Time Water Level  DEC D 2008  Date of test 1 2 3 0 X Bailer test O gall min. with 45 R. deawdown after A Sol Sub-P N D Beacher test O gall min. with 45 R. deawdown after A Sol Sub-P N D Beacher test O gall min. with 45 R. deawdown after A Sol D N  Dete of test 1 2 3 0 X Bailer test O gall min. with 45 R. deawdown after A Sol D N  Dete of test D 2008  Deteror Was a chemical analysis made? W Yes D No		MATERIAL		10
Type Diam. Slot size from Rt to Rt to Rt Conglot Metalth 3 1/4 Diam. Slot size from Rt to Rt to Rt Conglot Metalth 3 1/4 Diam. Slot size from Rt to Rt to Rt Conglot Metalth 3 1/4 Gravelf Piller packed: O Yes O'No Size of gravelfand 1 1/5 SS 65 Materials placed from Rt to Rt to Rt Conglot Metalth 1 1/5 SS 65 Surface Seal: Wes So To what depth? 2 R.  Surface Seal: Wes So To what depth? 2 R.  Material used in seal Reh 1 1/20 1/4 SS 87  July So Month 1		161110 - 16-1		13
Diam. Slot size from (1. to (1	Type Model No		The second second	-
Gravel/Filter packed: O Yes O No O Size of gravel/sand				-
Materials placed from ft. to ft. Sort School				1
Surface Seal: N Yes No To what depth? 2 n.  Material used in seal Sea house? Pyes No Did any strate control usuasable water? Depth of strata  Type of water?.  Method of sealing strata off  PIMP: Manufacturer's Name / 100 l0  WATER LEVELS: Land-surface elevation above mean's sea level Static level So the below top of well Date 12208  Arresian presture los. per square incht Date Arresian water is controlled by (cap. valve, etc.)  WELL TESTS: Drawdown is amount water level is lowered below static level Was a pump test, made? Yes No If yes, by whom? Depth of the gall-min, with A. drawdown after hr. Yield: gall-min, with A. drawdown after hr. Recovery date (time taken as zero when pump turned off) (water level measured from well app to water level) Time Water Level Time Water Level Time Water Level  Date of test 1230 K drawdown after hrs. Artesian flow Temperature of water Was a chemical analysis made? Yes No			23	62
Material used in seal SPA Hoo) 1 Col. S Did any strate contain unusable water? Depth of strata  Type of water?  Type of water?  PUMP: Manufacturer's Name Type: SU.D  WATER LEVELS: Land-surface elevation above notes as level Static level SO ft below top of well Date Artesian pressure  Ibs. per square inder Date Artesian pressure  WELL TESTS: Drawdown is annount water level is lowered below static level Was a pump test made? B Yes Do If yes, by whom?  Well Tests: Drawdown is annount water level is lowered below static level Was a pump test made? B Yes Do If yes, by whom?  Well test SD 3 G  WELL TESTS: Drawdown is annount water level is lowered below static level Was a pump test made? B Yes Do If yes, by whom?  Well test SD 3 G  Well test SD 5	Substitute Mayor Files Traductions (C.)		67	140
Did any strata contain unusable water?  Type of water?  Type of water?  Depth of strata  Method of settling strata off  PUMP: Manufacturer's Name Type:  SUB  HP.  WATER LEVELS: Land-surface elevation above note in sea level  Static level  Arcsian pressure  Arcsian pressure  Arcsian pressure  Arcsian water is controlled by  (cap, valve, etc.)  WELL FESTS: Drawdown is amount water level is lowered below static level  Was a pump test, made? To Yes  Unit of the drawdown after  Ins.  Yield:  gal. Irnin. with  f. drawdown after  hrs.  Yield:  gal. Irnin. with  f. drawdown after  hrs.  Yield:  gal. Irnin. with  f. drawdown after  hrs.  Aircsian flow  Eacher lest  Date  Time  Water Level  Time  W				1110
Type of water?  Method of sealing strate off  PUMP: Manufacturer's Name Type: SUID  WATER LEVELS: Land-surface elevation above metal sea level Type: SUID  WATER LEVELS: Land-surface elevation above metal sea level Static level  I SO  ft below top of well Date Arcesian pressure  Ibs. per square incht Date Arcesian water is controlled by  (cap. valve, etc.)  WELL TESTS: Drawdown is amount water level is lowered below static level Was a pump test made? Ves  I No  If yes, by whom?  QQU  Yield:  gd. Irnin. with  ft. drawdown after Ars.  Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)  Time  Water Level  Time  Water Level  Time  Water Level  Time  Water Level  Detain ft. for Jars.  Arcesian flow  gpl. /min. with 4/5 ft. drawdown after Ins.  Arcesian flow  gpm. Date  Temperature of water  Was a chemical analysis made? Ves I No  Ins.  Was a chemical analysis made? Ves I No  Ins.  Was a chemical analysis made? Ves I No  Ins.  Was a chemical analysis made? Ves I No  Ins.  Was a chemical analysis made? Ves I No  Ins.  Was a chemical analysis made? Ves I No				1
Method of sealing strata off  PUMP: Manufacturer's Name Type: SUB  WATER LEVELS: Land-surface elevation above stream's sea level  Static level  Artesian pressure  Ibs. per square incht Date  Artesian water is controlled by  (cap, valve, etc.)  WELL TESTS: Drawdown is anyounn water level is lowered below static level  Was a pump test, made? O'Yes DNO If yes, by whom?  Vield:  gal. Irnin, with  f. drawdown after  Artesian water level;  gal. Irnin, with  with  water Level Time Water Level Time Water Level Time Water Level  Bailer test 10 gal. Irnin, with 45 ft. drawdown after  Ins.  Artesian flow  g.p.m. Date  Temperature of water  Was a chemical analysis made? O'Yes DNO  Temperature of water  Was a chemical analysis made? O'Yes DNO  West DNO  Well Test 30 V C GD DNO  Well Test 40 V C GD				1
PUMP: Manufacquer's Name		DAMY SOMO STONE	185	1207
WATER LEVELS: Land-surface elevation above mean sea level  Static level / SO ft. below top of well Date 12208  Artesian pressure lbs. per square incht Date Artesian water is controlled by  (cap, valve, etc.)  WELL TESTS: Drawdown is amount water level is lowered below static level  Was a pump test made? B Yes D No If yes, by whom? Date 1  Yield: G gal./min. with SO ft. drawdown after hrs.  Yield: gal./min. with ft. drawdown after hrs.  Yield: gal./min. with ft. drawdown after hrs.  Proceeding the taken at zero when pump turned off) (water level measured from well top to water level)  Time Water Level Time Water Level Time Water Level  Date of test 12368  Bailer test / O gal./min. with 45 ft. drawdown after hrs.  Altest gal./min. with stern set at ft. for hrs.  Antesian flow g.p.m. Date  Temperature of water Was a chemical analysis made? M Yes D No				+
WATER LEVELS: Land-surface elevation above mean sea level  Static level	Type: 5.U.B H.P. 1	Man Il Oronduce / 1500		-
Static level SO ft. below top of well Date 12208 Artesian pressure   lbs. per square incht Date    Artesian water is controlled by    WELL TESTS: Drawdown is amount water level is lowered below static level    Was a pump test made? Wes   No If yes, by whom? DQU    Yield: Go gal/min. with ft. drawdown after hrs.    Yield: gal/min. with ft. drawdown after hrs.    Yield: gal/min. with ft. drawdown after hrs.    Water Level Time Water Level Time Water Level    Bailer test O gal/min. with 45 ft. drawdown after hrs.    Artesian flow gap.m. Date    Temperature of water    Was a chemical analysis made? Wes   No    No OUC & I. SCPM    Well SCPM    Well Front 21.5 hr Q    Well Fr	WATER LEVELS: Land-surface elevation above mean sea level ft.		-	<del> </del>
Artesian pressure   1bs. per square incht Date   Artesian water is controlled by (cap, valve, etc.)  WELL TESTS: Drawdown is amount water level is lowered below static level   Was a pump test made? Dees   No If yes, by whom? Dev   Yield: Gel /min. with		Din Jun i 1 5 /- Din		-
WELL TESTS: Drawdown is amount water level is lowered below static level  Was a pump test made? December 1 No If yes, by whom? December 2 No If yes, by whom? December 2 No If yes December 2 No I		HOUNTS HOUTH		-
WELL TESTS: Drawdown is amount water level is lowered below static level  Was a pump test made? If Yes INO If yes, by whom?  Yield: Geal/min. with In. drawdown after hrs.  Yield: gal/min. with In. drawdown after hrs.  Recovery data (time taken as zero when pump turned off) (water level measured from well tap to water level)  Time Water Level Time Water Level Time Water Level  Date of test I 2 3 5 8  Bailer test O gal/min. with 45 ft. drawdown after hrs.  Artestan flow gal/min. with stern set at ft. for hrs.  Artesian flow gal/min. with stern set at gp.m. Date  Temperature of water Was a chemical analysis made? If Yes INO		wall twent DIS his at	- 46	Dim
Was a pump test made? BY ses DNo If yes, by whom? DQUID  Yield: Gal/min. with		John C Nucl 3/16	00	111
Yield: 6 gal/min. with 40 ft, drawdown after 2.5 hrs.  Yield: gal/min. with ft. drawdown after hrs.  Yield: gal/min. with ft. drawdown after hrs.  Recovery data (time taken as zero when pump turned off) (water level measured from well tap to water level)  Time Water Level Time Water Level Time Water Level  Date of test 12 3 5 8  Bailer test 10 gal/min. with 45 ft. drawdown after hrs.  Artesian flow gpl/min. with stern set at ft. for hrs.  Artesian flow gpl/min. with stern set at ft. for hrs.  Temperature of water Was a chemical analysis made? 7 Yes □ No		101 3 DID 36		
Yield: gal./min. with fl. drawdown after hrs.  Yield: gal./min. with fl. drawdown after hrs.  Recovery data (time taken at zero when pump turned off) (water level measured from well tap to water level)  Time Water Level Time Water Level Time Water Level  Date of test 12368  Bailer test 10 gal./min. with 45 ft. drawdown after hts.  Airtest gal./min. with stern set at ft. for hrs.  Artesian flow g.p.m. Date  Temperature of water Was a chemical analysis made? V Yes □ No				
Yield: gal./min. with	Yield: gal/min with 70 n. drawdown after hrs.			f-
Date of sest 12308  Date of sest 12308  Bailer test 10 gal /min. with 45 ft. drawdown after hts.  Airtest gal /min. with stern set at ft. for has.  Artesian flow g.p.m. Date  Temperature of water Was a chemical analysis made? No Yes 10 No	Yield: gal./min. with fl. drawdown after hrs.			
Date of test 12 3 0 8  Bailer test 10 gal/min, with 45 ft. drawdown after 1 hrs.  Airtest gal/min, with stern set at ft. for hrs.  Artesian flow g.p.m. Date  Temperature of water Was a chemical analysis made? No Yes 10 No				
Date of test 12 3 0 8  Bailer test 10 gal/min, with 45 ft. drawdown after 1 hrs.  Airtest gal/min, with stern set at ft. for hrs.  Artesian flow g.p.m. Date  Temperature of water Was a chemical analysis made? No Yes 10 No		KECE	IVED	
Date of test 12368  Bailer test 10 gal /min. with 45 ft. drawdown after / hrs.  Airtest gal /min. with stern set et ft. for hrs.  Artesian flow g.p.m. Date  Temperature of water Was a chemical analysis made? N Yes   No				
Bailer test O gal /min. with 45 ft. drawdown after hus.  Airtest gal /min. with stem set at ft. for hrs.  Artesian flow g.p.m. Date  Temperature of water Was a chemical analysis made? Ver No		UEC 1	2008	
Bailer test O gal /min. with 45 ft. drawdown after hus.  Airtest gal /min. with stem set at ft. for hrs.  Artesian flow g.p.m. Date  Temperature of water Was a chemical analysis made? Ver No	Date of test 12308	DEDT OF		
Airtest gal./min. with stern set et ft. for hrs.  Artesian flow g.p.m. Date  Temperature of water Was a chemical analysis made? V Yes No	The state of the s	DEFT. OF E	COLOG	Y
Artesian flow g.p.m. Date  Temperature of water Was a chemical analysis made? Ves No				
Start Date 9 10 08 Completed Date 12 1208	Temperature of water Was a chemical analysis made?			
		Start Date 9 10 08 Completed	Date 12	1208

esponsibility for construction of this well, and its compliance with all orted above are true to my best knowledge and belief.
Drilling Company A1 2111 ng and Digging
Address Parox 1207
City, State, Zip S to N WAS U
Contractor's Registration No. ADVID 1942 RD Date 121208
Ecology is an Equal Opportunity Employer.

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.21	E < 13	E 1:0	171	25

Original & 1st copy - Ecology, 2st copy - owner, 3st copy - driller

Construction/Decommission ("x" in circle)  © Construction	Water Right Permit No.		D
O. Decommission ORIGINAL INSTALLATION Notice	Property Owner Name 50 nR-coks	F.+	1.6
of Intent Number			
PROPOSED USE: 12 Domestic   Industrial   Municipal	Well Street Address Lat 7) Sun P		
D DeWater D Irrigation D Test Well D Other	City Stanumor County 5/1		
TYPE OF WORK: Owner's number of well (if more than one)	Location <u>SE</u> 1/4-1/4 <u>NE</u> 1/4 Sec. <u>2</u> Twn32	R 7 CEWM	circle
New well □ Reconditioned Method: □ Dug □ Bored □ Driven □ Despensed □ Cable □ Rotary □ Jetted	Lat/Long (s, t, r Lat Deg Lat	Min/Sec _	A THYS
DIMENSIONS: Diameter of well 6 inches, drilled 22 6 ft.  Depth of completed well 12 6 ft.		g Min/Sec	-
CONSTRUCTION DETAILS	Tax Parcel No. 320403 0041	0030	0
Casing D Welded / Diam from O ft. to / 8 ft. Installed: D Liner installed - Diam from - 7 ft. to 22 c ft.  Thompiles - Diam from - 7 ft. to 22 c ft.	CONSTRUCTION OR DECOMMISSION		
Perforations: © Yes □ No Type of perforator used 50 W	Formation: Describe by color, character, size of material and a nature of the material in each stratum penetrated, with at least	one entry for each	h change of
SIZE of peris 3/16 in by 4 in and no. of peris 100 from 1 85th to 226	information. (USE ADDITIONAL SHEETS IF NECES	5 7 7	TO
Screens:	tan to Psoil Sahiju	FROM	3
Manufacturer's Name	tan 1005011 301114	. 3	14
Type Model No	brail till	15	35
Diara Slot size from ft to ft.  Diara Slot size from ft to ft.	Gray 31 Hy Sand Cors C	35	75
Gravel/Filter packed:  Yes No Size of gravel/sand	brun Fine Sandston-c	75	150
Materials placed from ft. to ft.	Cray Cork & Sand Stone	ISa	160
Surface Seal: A Yes Q No To what depth? 20 ft.	Urail Fine sandstone	160	204
Material used in seal Bentinoite Chip 5	VVIII Shel- #20	204	207
Did any strata contain impsable water?   ☐ Yes ☐ No	Grand Stance	207	226
Type of water? Depth of strata	O TAY TAND ITOM	201	7,12,7
Method of scaling strata off		-	***************************************
PUMP: Manufacturer's Name NO			
Type: H.P			
WATER LEVELS: Land-surface elevation above mean sea level ft.			
Static level / 155 / ft. below top of well Date 10 708			
Artesian pressure lbs. per square inchr Date			
Artesian water is controlled by			
(cap, valve, etc.)	PUMP Setat 207		
WELL TESTS: Drawdown is amount water level is lowered below static level	at 1 GPm to 510W	· .	
Was a pump test made?   Yes   No If yes, by whom?  Yield: gal /min. with ft. drawdown after hrs.	Gray 7100/14, 5,1+		
Yield: gal min with ft drawdown after hrs.	0147 106114	13672	
Yield: gal/min with ft. drawdown after hirs.			
Recovery data (time taken as zero when pump turned off) fwater level measured from well			
Time Water Level Time Water Level Time Water Level			
		1.1	
Date of sest 10 60 8		10.14	100000
Bailer test 12 gal/min. with 70 ft. drawdown after 20 min	recoverat 1.5 1.7m	75	
Airtest gal/min with stem set at fi. for hirs			
Artesian flow g.p.m. Date			
Temperature of water Was a chemical analysis made? Yes No			
	Start Date 10 1 0 8 Complete	Date 10	7.08
ELL CONSTRUCTION CERTIFICATION: 1 constructed and/or according			

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept	responsibility for construction of this well, and its compliance with all
Washington well construction standards Materials used and the information re	ported above are true to my best knowledge and belief.
Washington well construction standards. Materials used and the information re  Driller D Engineer D Trainee Name (Print)	Drilling Company A1 Drillin and Digr, wu
	22012 1 44/1

"Driller/Engineer/Traince Signature riller or trainee License No.

City, State, Zip

ITRAINEE, Driller's Licensed N Driller's Signature

Registration No. AI DVIDIGUARE Date 10.0708 Ecology is an Equal Opportunity Employer.

-	
30	314
1	71-11

1 Bennett Lot 8 32-46-2H

WATER WELL REPORT	CURRENT Notice of Intent No. W 25218	1
Original & le copy - Ecology, 2rd copy - owaer, 3rd copy - driller	Unique Ecology Well ID Tag No. But	
Construction/Decommission ("x" in circle)  Struction	Water Right Permit No.	
O Decommission ORIGINAL INSTALLATION Notice	Water Right Permit No.  Property Owner Name RUSS Been	200
of Intent Number	Well Street Address 31720 1917	Dr 411.)
PROPOSED USE: C Domestic		phomis h
□ DeWater □ Irrigation □ Test Well □ Other	Location 5 2014-1/4 WH4 Sec 2 Twn 32	
TYPE OF WORK: Owner's number of well (if more than one)  New well   Reconditioned   Method:   Dug   D Bored   D Driven		MAN ess
D Doepened To Reconstitutioned To Day D Borea D Driven	Lat/Long (s, t, r Lat Deg Lat	Min/Sec
DIMENSIONS: Diameter of well 6 inches, drilled 200 ft.  Depth of completed well 200 ft.	Still REQUIRED) Long Deg Lon	g Min/Sec
CONSTRUCTION DETAILS	Tax Parcel No. 610 757 00000	800
Casing & Welded & "Diam. from A ft. to & O ft. Installed: F Liner installed & "Diam. from 20 ft. to 200 ft.		
□ Threaded "Diam. from th. to th.	CONSTRUCTION OR DECOMMISSION  Formation: Describe by color, character, size of material and s	
Perforations: 6 Yes D No Type of perforator used Saw	nature of the material in each stratum penetrated, with at least of	ne entry for each change of
SIZE of perfs g in by 4 in and no. of perfs/log/from 440 ft. 1209.	information, (USE ADDITIONAL SHEETS IF NECES:	
Screens:	diant ton to Dearch	FROM TO
Manufacturer's Name	ALUM THE THEY	-0-
Type Model No.  Diam. Shot size from ft. to ft.	tan clav	2 10
Diam. Stot size from ft. to ft.	,	
Gravet/Filter packed: 1 Yes 8 No 1 Size of gravel/sand Materials placed from ft. 10 ft.	ton till	10 14
Surface Seal: Fe Yes O No To what depth? 20 ft.  Material used in seal BEATINOTIES CHIEFS	bray (ongler mant (+111)	14 20
Did any strata contain unusable water?  Type of water?  Depth of strata	( + muntil corse sand	20 67
Method of sealing strata off	tan Soft Shale	67 86
PUMP: Manufacturer's Name (POC) C H.P. SUB H.P.	6-rus Sansfon = 71n=	76 155
WATER LEVELS: Land-surface clevation above mean sea levelft.	4	
Static level 149 ft. below top of well Date 62508 / Artesian pressure 1bs. per square inch: Date	Gray Corst Sandstone	155 167
Artesian water is controlled by	Gray Zine Sandstone	167 200
WELL TESTS: Drawdown is amount water level is lowered below static level Was a pump test made? If Yes I No If yes, by whom? 12011		RECEIVED
Yield: 5:5 gal/min with 40 ft. drawdown after 22 hrs. Yield: gal/min, with ft. drawdown after brs.		
Yield: 2 gal./min. with 5 ft. drawdown after 45 hrs.		JUL 2 2 2008
Recovery data stime taken as zero when pump turned off) (water level measured from well top to water.level)		PT. OF ECOLOG
Time Water Level Time Water Level Time Water Level 11:50 148 440 153 430 1.50	well Flow ruth 2 6pm	r t. Or ECOLOG
4200		
Date of test 6 30 0 8  Bailer test 5 yal/min with 40 ft. drawdown after 22 me.		
Airtest gal/min, with stem set at ft. for brs.		
Artesian flow g.p.m. Date		100
Temperature of water Was a chemical analysis made?    ✓ Yes □ No	13.08	1 -0 -0
	Start Date 6 20 08 Completed	Date 6 29 08
WELL CONSTRUCTION CERTIFICATION: I constructed and/or acc Washington well construction standards. Materials used and the information  Driller   Engineer   Traince Name (Frim)   1994	n reported above are true to my best knowledge and Drilling Company 49 9 11 134 CAM	Digging Inc
Orliter/Engineer/Trainee Signature	Address 22613 Loth Deluce	3000
Driller or trainee License No. Jalq 1	City, State, Zip S trans uno	
Driller's Licensed No.	- Registration No. AS DVI DIGGLECT	Tere 7 608
Driller's Signature	Ecology is an Eq	ual Opportunity Employer.

## Batemar 32-46-1214 306767 CURRENT WATER WELL REPORT 111252182 Notice of Intent No. Original & I" copy - Ecology, 2" copy - owner, 3rd copy - driller Original & 1" copy—Ecology, 2" copy—ov Et & L & C Y Construction/Decommission ("x" in circle) Unique Ecology Well ID Tag No. RyA 2341 Water Right Permit No. O Construction Att 9 O Decommission ORIGINAL INSTALLATION Notice Property Owner Name Dim Shown & of Intent Number \_\_ Well Street Address Lot 9 31632 19th DRNI) D Irrigation [] Industrial [] Test Well PROPOSED USE: C Municipal City Stan 2000 County Shohomish D DeWater Other\_ Location 514-114 WELL Sec 12 Two 32R 4 EWA since TYPE OF WORK: Owner's number of well (if more than one) New well D Reconditioned Deepened Driven Lat Deg \_\_\_ Lat/Long (s, t, r Lat Min/Sec DIMENSIONS: Diameter of well 6 inches, drilled 20 Ch Still REQUIRED) Long Deg Long Min/Sec Depth of completed well 2001 Tax Parcel No. 010757 60000900 CONSTRUCTION DETAILS Newlded 6 Diam from 0 ft to // (ft S Liner installed 4/3 Diam from -20 ft to 20 Oft Diam from ft to ft to R CONSTRUCTION OR DECOMMISSION PROCEDURE 1 Threaded Formation: Describe by color, character, size of material and structure, and the kind and Perforations: Of Yes D No Type of perforator used . 46/01/6-10 1210-e nature of the material in each stratum penetrated, with at least one entry for each change of information. (USE ADDITIONAL SHEETS IF NECESSARY.) SIZE of peris 3/16 in by 7 in, and no. of perfs 2 from 40 h. to 200 MATERIAL D Yes A No D K-Pac Location 4012501 0 Black Manufacturer's Name tan +111 conglormant 3 SILLY SON 90 TYOU S'ot size Stot size 80 Fint Silt from A to Crow 20 Gravel/Filter packed: D Yes No D Size of gravel/sand 80 6-MX 120 5 hale Materials placed from FINC 170 Sand Slone 120 Surface Seal: 18 Yes D No To what depth? 18 B. Material used in seal Bent in 1 to Chill 180 corse true sanston 170 Tine Growy Sawstone 200 D Yes D No Did any strata contain unusable water? Depth of strate Type of water? Method of scaling strata off 7-111-8 CAN PUMP: Manufacturer's Name Type: 503 Cloudy and ter Bel WATER LEVELS: Land-surface elevation above mean sea level 3 UAM 711try abla ft. below top of well Date 72408 Static level [14/0] lbs. per square inch. Date Ball and Found 2000KS Artesian water is controlled by . 40 Charage (cap, waive, etc.) WELL TESTS: Drawdows is amount water level is lowered below static level Daviv Was a pump test made? KYes | I No If yes, by whom? gal min with 22 ft, drawdown after Yield: fl. drawdown after gal./min. with Yield: ft, drawdown after Recovery does frime taken as zero when pump turned off) (water level measured from well RECEIVED inp to water level) AUG 0 5 2000 DEPT. OF ECOLOGY 73008 5 gal /min. with \_\_\_ ft, drawdown after gal /min, with stem set at \_\_\_

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

ONDriller | Engineer | Trainee Name (Priper CT) | Page 14 | Page 14

If TRAINEE,
Driller's Licensed No.
Driller's Signature

ECY 050-1-20 (Rev 3/05)

gp.m. Date

Was a chemical analysis made? A Yes O No

Contractor's

Registration No. A-10 v 10 56c F-Date 73/08

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	Spane 1	- 10	
337795	3/200		
WATER WELL REPORT	CURRENT	02	•
Original & 1"copy - Ecology, 2" copy - owner, 3" copy - drifter	Notice of Intent No. W2685	8 2	
t 6 t 6 t 7 Construction/Decommission ("x" in circle)	Unique Ecology Well ID Tag No. Bert	466	
© Construction .	Water Right Permit No.		Lo
O Decommission ORIGINAL INSTALLATION Notice	Property Owner Name 5 m 50	1	
of Intent Number	Well Street Address 31628 19	The Day	(11)
PROPOSED USE:	City 5-tanwood County 5		
	Location 50 1/4-1/4 /18 /4 Sec 2 Twn 32	R4 (EW)	direk
TYPE OF WORK: Owner's number of well (if more than one)		M.MV	E One
New well D Reconditioned Method: D Dug D Bored D Driven Deepenod Coble D Rotary D Jetted	Lat/Long (s, t, r Lat Deg Lat	Min/Sec_	
DIMENSIONS: Diameter of well 6 inches, drilled 80 ft.  Depth of completed well 80 ft.	Still REQUIRED) Long Deg Long	ng Min/Sec	
CONSTRUCTION DETAILS	Tax Parcel No. 010 757 000	01000	C
Casing & Welded 6 Diem from 5 ft. to 40 ft. Installed: Et Liner Installed	CONSTRUCTION OR DECOMMISSION	N PROCEDU	RE
Perforations: 2 Yes 5 No	Formation: Describe by color, character, size of material and		
Type of performer used 50 W	nature of the material in each stratum penetrated, with at least information. (USE ADDITIONAL SHEETS IF NECES	one entry for ea	eh chang
SIZE of perfs 34 in. by 4 in. and no. of perfs 40 from 40 ft. to 80 ft.	MATERIAL .	FROM	T
Screens: O Yes O No O K-Pac Location	ton topsoil	O	2
Manufacturer's Name			
Type Model No. Diam. Slot size from ft. to ft.	Light ton conclorment till	)2	18
Diam Slot size from ft, to ft  Gravel/Filter packed:   Yes S No Size of gravel/sand		.01	-
Materials placed from ft. to ft.	Stray hill	18	3
Serface Seal: 19 Yes "I No To what depth? 18 ft.  Material used in seal 8-en 4 Wol 4-Ch 10-S	GALLI SONT ZING	34	3
Did any strata contain tunusable water? C Yes C No	Gray Corse sank lon-	.36	4
Type of water? Depth of strata			
Method of scaling strate off	bray Sandston	44	8
FUNP: Manufacturer's Name 6-0e3 (O Type: 50 B			•
	RECEIVED		
WATER LEVELS: Land-surface elevation above mean sea level  1. Static tevel  2. 2. ft. below top of well Date: 3.2009		10000	
Static tevel	APR 29 2009		_
Artesian water is controlled by			-
(cap, valve, cts.)	Dept of Ecology		-
WELL, TESTS: Drawdown is amount water level is lowered below static level	WR-NWBO		-
Was a pump test made? DRYes DNo If yes, by whom?	Rumbtest 2160 ballion		-
Vield: 1.5 gal/min with 50 ft. drawdown after 24 less.  Vield: gal/min with ft. drawdown after loss.	in a 24 hr Derioi	•	
Yield: gai/min. with fl. drawdown after thrs.	m a ad the ballott		
Recovery data (Line taken as zero when pump turned aff) (water level measured from well top to water level)			
Time. Water Level Time Water Level Jime Water Level	• 8 1 2 3 3 3 3		
Date of test			
Bailer testgal/min, withft, drawdown afterbus.	•		
Airtestgal/min. with siem set at ft. for hrs.			
Airtestgal/min_with siem set at ft. for hrs.	Start Date 3 /0 0.9 Complete		248

City, State, Zip Stuneson was

DVID 1940 QD Date 4 1904

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Oriller or trainee License No.

II TRAINEE, Driller's Licen

Driller's Signature

	SAVADELZ (72,	11	
WATER WELL REPORT Original & 1" copy - Ecology, 2" copy - owner, 3" copy - driller	CURRENT Notice of Intent No. U) 2689 3	(0)	
Original & 1" copy - Ecology, 2" copy - owner, 3" copy - driller  E C 0 L 0 C Y  Construction/Decommission ("x" in circle)	Unique Ecology Well ID Tag No. Bu	14192	
Construction ( x m ctrae)			
<ul> <li>Decommission ORIGINAL INSTALLATION Notice</li> </ul>	Water Right Permit No.  Property Owner Name Katilin 5	000 B-	- FCI
of Intent Number	Well Street Address 10+ 19 1911	Drivel	W
PROPOSED USE: Domestic Industrial Municipal DeWater Inrigation Test Well Other	City Stunwood County 5 n		
	Location 5 6 14-114 10 6 14 Sec 2 Twn 32		
TYPE OF WORK: Owner's number of well (if more than one)  [E] New well     Reconditioned   Method:   Dug     Bored   Driven		WWW	ene
Deepened Cable Rotary Detted	Lat/Long (s, t, r Lat Deg Lat	Min/Sec	
DIMENSIONS: Diemeter of well 6 inches, drilled 22 ft.  Depth of completed well 22 3 + 2	Still REQUIRED) Long Deg Lor		
CONSTRUCTION DETAILS 47	Tax Parcel No. 010 757 000-	011-00	2
Casing B Welded Diam from ft. to 30 ft. Installed: D Liner installed 45 Diam from 5 ft. to 283 ft.	CONSTRUCTION OR DECOMMISSION	PROCERURI	-
D Threaded Diam from R. to ft.	Formation: Describe by color, character, size of material and		-
Perforations: PYes No. Type of perforator used Soul	nature of the material in each stratum penetrated, with at least	one entry for each	change of
SIZE of perfs 3/16 in. by 5 in. and no. of perfs/Orifrom 16/10 to 220	information. (USE ADDITIONAL SHEETS IF NECES MATERIAL	FROM	. то
Screens:	Dary Broom Tobsoil	(2)	12
Manufacturer's Name Type Model No.		1 22	
Diam Siot size from ft to ft.	dight fan Sawsit Rocks	100	5
Diam Slot size from ft to ft.  Cravel/Filter packed: □ Yes □ No □ Size of gravel/sand	ton conclorment Firm	5	25
Materials placed from fl. to fl.	TON PONGIOT PROST TITLE	-3-	-
Surface Seal: E Yes D No To what depth? 19 ft.	71 ne Way Sand Stone	25	40
Material used in seal Ron tinoite Chips			
Did any strata contain unusable water?   ☐ Yes ☐ No	cors = 1-ruisand stone	40	42
oe of water? Depth of strain	2 - 1 - 1 - 1 - 1 - 1 - 1	42	130
chod of sealing strata off  PUMP: Manufacturer's Name 100	17-in & Irvai sandston &	7	. 70
Туре:НР	tan corse	130	150
WATER LEVEES: Land-surface elevation above mean sea levelft.		, m	
Static level 7 5 ft. below top of well Date  Artesian pressure ibs. per square inchr Date	7-Ine ITYOU	150	180
Artesian water is controlled by	Corse brau	180	185
(cap, valve, etc.)	CARCEDIAG	700	
WELL TESTS: Drawdown is amount water level is lowered below static level  Was a pump test made a series series life yes, by whom?  Day 1 V	Fine Urvail	185	223
Yield: 8 gal Jmin. with 35 ft. drawdown after hrs.	18 8610	3/1	
Yield: S gal/min. with 8.5 ft. drawdown after hrs.  Xield: gal/min. with ft. drawdown after hrs.	1. hour insetwest B	11 774	1
Recovery data (time taken as zero when pump turned off) (water level measured from well	179 2010	VN	0 1
op to water level)  Time Water Level / Time Water Level Time Water Level	LEST LOCK HOW TO SEE TO 12	174 CE	7470
a Dellow the The see all with a delicered			e . of . r . fr
	7/00 mte 2 to 2 \$ 1 to	FIE	
Pate of rest		6000	2215
Sailer test 6 gal/min. with 35 ft. drawdown after hrs.	aster 300 ballion &	TO ME POL	1215
virtest gal/min: with stem set at ft. for hts.  Artesian flow g.p.m. Date			
emperature of water Was a chemical analysis made? Dives D No	1 1 1		
	Start Date 18 2010 Completed	Date 120	2010
ELL CONSTRUCTION CERTIFICATION: I constructed and/or acc	cept responsibility for construction of this well, and	its compliance	with all
ashington well construction standards. Materials used and the information	on reported above are true to my best knowledge and	d belief.	
riller   Engineer   Trainee Name (Print)   Dail   David Authory G	Drilling Company A1 Drilling and	1)19014	Inc
Aler/Engineer/Trainee Signature	City, State, Zip Stan wood		
Iler or trainee License No	City, State, Zip 3 To N 2000		
TRAINEE,	Periodica No. ALDYINIGUE	no 120	2010

Ecology is an Equal Opportunity Employer.

Driller's Signature

ECY 050-1-20 (Rev 3/05)

	Guerriot 12
5-1-0	22/10 2/2
371709	30-4E-2h
WATER WELL REPORT	CURRENT
	Notice of Intent No. W268921
1 ( 0 1 0 ( i Construction/Decommission ("x" in circle)	Unique Ecology Well ID Tag No. 3449
© Construction	Water Right Permit No.
O Decommission ORIGINAL INSTALLATION Notice	Property Owner Name Keuin Sund Berg
of Intent Number	Property Owner Name A-011 SO-00 12-1-1
PROPORTE UPP ME D	Well Street Address Lot 12 19th Drue New
PROPOSED USE: Domestic   Industrial   Municipal   DeWater   Irrigation   Test Well   Dotter	(City 5 tanwood) County 5 no hom 13 h
TYPE OF WORK: Owner's number of well (if more than one)	Location SB14-1/4UB/4 Sec 2 Twn 32 R 4 Guille einele
New well   Reconditioned Mathod:   Dug   D Bored   Driven	www one
Deepened Cable D'Rotary D Jetted	Lat/Long (s, t, r Lat Deg Lat Min/Sec
DIMENSIONS: Diameter of well 6 inches, drilled 276 ft	Still REQUIRED) Long Deg Long Min/Sec
Depth of completed well 27 6 ft.  CONSTRUCTION DETAILS	Tax Parcel No. 10757 000 012 00
Casing & Welded & " Diam from 4/ ft to 30 ft	Tax Falce Tio. 10 75 : 000 Diago
Installed: D. Liner installed 432 Diam. from. 10 ft. to 27 6 ft.	CONSTRUCTION OR DECOMMISSION PROCEDURE
Threaded Diam. from ft. toft.  Perforations: 2 Yes No	Formation: Describe by color, character, size of material and structure, and the kind and
Type of perforator used Sacu	nature of the material in each stratum penetrated, with at least one entry for each change of information. (USE ADDITIONAL SHEETS IF NECESSARY.)
SIZE of peris 316 in: by 4 in. and no. of peris 101 from 170 ft. to 176	MATERIAL FROM TO
Screens: Yes No K-Pac Location	Black to 15501 0 611
Manufacturer's Name Type Model No.	tun conclorman 5 6 26
Diam. Slot size from ft: 10 ft.	Firm
Diarn Slot size from ft. to ft.  Gravel/Filter packed: □ Yes Ø No □ Size of gravel/sand	Fine may gambstone 26 76
Materials placed from ft. to ft.	cong-c Gray Sand Stone 76 86
Surface Seal: VI Yes D No To what depth? 19 ft.	
Material used in seal Bentinoit	Fine bras Sandstone 86 170
Did any strata contain unusable water?	
Type of water? Depth of strata	corse (way sands tone 170 176
Method of scaling strata off PUMP: Manufacturer's Name NO	10 TO
PUMP: Manufacturer's Name N. O. Type: H.P.	7+11 - (SVC4 Gan) STOP - 17 276
WATER LEVELS: Land-surface elevation above mean sea level fi.	<del> </del>
Static level 170 ft. below top of wetl Date / 82010	RECEIVED
Artesian pressure lbs. per square inchr Date	DEPARTMENT OF ECOLOG
Artesian water is controlled by	
WELL TESTS: Drawdown is amount water level is towered below static level	Man 2 5 2010
Was a pump test made?   Yes No If yes, by whom?	
Yield: gal./min. with ft. drawdown after hrs.	JAN 2 6 20 WATER RESOURCES PROGRA
Yield: gal /min. with ft. drawdown after hrs. Yield: gal /min. with ft. drawdown after hrs.	NWRO
Recovery data (sime taken as zero when pump turned off) (water level measured from well	Deptof Ecology RECEIVED
top to water level)  Time Water Level Time Water Level Time Water Level	WRAWRO
THE WARTEVEN THE WARTEVEN	S. S. Sund
Date of test 18208	well produce 16/570 DATERING.
Baller test 10 gal Jmin, with 176 ft. drawdown after 17 3211	construction From MRANDETE
Ainest gal./min. with stem set at ft. for hes.	48 hours
Artesian flow gp.m. Date	1) min recoveragent 27 6-14
Temperature of water Was a chemical analysis made? F Yes C No	Start Date 1228 09 Completed Date / St. 2006
VELL CONSTRUCTION CERTIFICATION: I constructed and/or acc ashington well construction standards. Materials used and the information	cept responsibility for construction of this well, and its compliance with all
Driller DEngineer Trainee Name Print Dull Service and the information	Drilling Company Al Dulle a Rolly 9.1.19 In
riller/Engineer/Trainee Signature	Address 22813 With Druz VW
riller or trained License No. 1297	City, State, Zip Stan wood war 98292
TRAINEE.	Contractor's
riller's Licensed No.	Registration No. ADDY ID 1942 RE Date \$ 12 201
riller's Signature	Front on it an Equal Committee Emplayer

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# WATER WELL REPORT Application No.

STATE OF WASHINGTON

3

Permit No. .... Tyes Rd. - Conway Hill Ht. Vernoc (1) OWNER: Name Don Neff SE WHULL Sec 27 TISS N. R. A. WM. LOCATION OF WELL: County 5/41/1 king and distance from section or subdivision corner (3) PROPOSED USE: Domestic D Industrial D Municipal D (10) WELL LOG: Irrigation | Test Well | Other Formation: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of formation. (4) TYPE OF WORK: Owner's number of well (if more than one)..... MATERIAL New well Method: Dug Bored [ Sandy topsoil Deepened Cable Driven D . 4 Rotary [ Jetted [ Tan clay & gravel 1.5 Reconditioned | 15 (11) Gray clay & gravel (5) DIMENSIONS: 80 134 Brown clay & peet Drilled 336 ft. Depth of completed well 338 ft. Gray gravel, clay, sand, & see-125 page / clamshells (6) CONSTRUCTION DETAILS: 125 130 Gray sandatone Casing installed: 6 " Diam. from +2 ft. to 123 ft. Brown siltstone & scattered clam-Threaded [] "Diam, from \_\_\_\_\_ ft. to \_\_\_\_ ft. 139 210 shells Welded D " Diam. from ...... ft. to ...... ft. Gray sandstone - Water (?) 1.5 mm 210 235 Perforations: Yes | No [3] 235 245 Brown siltstone Type of perforator used\_\_\_\_\_ 243 290 Gray fine sandstone SIZE of perforations \_\_\_\_\_ in, by \_\_\_\_\_ in. 290 291 Coal perforations from \_\_\_\_\_ ft. to \_\_\_\_ ft 291 Brown siltstone 311 .... ft. to .... .. perforations from .. 312 perforations from \_\_\_\_\_ ft. to \_\_\_\_ Coal 312 312 Brown siltstone . 316 Screens: Yes No B Gray stiż siltstone 316 Manufacturer's Name\_\_ Diam. ..... Slot size ..... ..... from ..... ft. to ... Diam. Slot size \_\_\_\_ from \_ Gravel packed: Yes No No Size of gravel: ..... Gravel placed from \_\_\_\_\_\_ ft. to \_\_\_\_\_ ft. Surface seal: Yes [] No [] To what depth? 18 ft. Material used in seal Puddeling Clay Did any strata contain unusable water? Type of water?\_\_\_\_\_ Depth of strata\_\_\_\_ Method of sealing strata off... Bertaly (7) PUMP: Manufacturer's Nam Туре: 44 М 19 (8) WATER LEVELS: Land-surface elevation above mean sea level.... (243 PSL) above mean sea level... ft. Static level 85 ft. below top of well Date 7/6/81 Artesian water is controlled by..... (Cap, valve, etc.) Drawdown is amount water level is lowered below static level (9) WELL TESTS: 7/6 1931 Completed Work started.... Was a pump test made? Yes [] No [3 If yes, hy whom?... Yield: WELL DRILLER'S STATEMENT: gal./min. with ft. drawdown after hrs. This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief. Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level) (Person, firm, or corporation) (Type or print) Time Water Level | Time Water Level | Time 1413 Colony Rd. Date of test ..... [Signed].... Balley test 2 gal/min, with ft. drawdown after..... Artesian flow..... g.p.m. Date... License No. 762 Date 12/15 , 19:55 Temperature of water............ Was a chemical analysis made? Yes [] No []

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## WATER WELL REPORT

Notice of Intent W151526 19
UNIQUE WELL I.D. # ABD271

STATE OF WASHINGTON

Water Right Permit No.

(1) OWNER: Name Monte Ruble	Address 21614 Tyee Rd, MtVernon, WA 98274		
(2) LOCATION OF WELL: County Skagit	- NE 1/4 NE 1/4 Sec 27 T.		LE W.M.
STREET ADDRESS OF WELL (or negrest address) same			
TAX PARCEL NO.	33/45-27	AI	
(3) PROPOSED USE: XI Domestic	(10) WELL LOG of DECOMMISSIONING PROCED	URE DESCR	IPTION:
Older Test Well Other	Formation: Describe by color, character, size of material and structure.		
□ DeWster	nature of the meterial in each stratum penetrated, with at least one and of information. Indicate all water encountered.	y for each charge	
(4) TYPE OF WORK: Owner's number of well (If more than one)		7	
X New Well Method:	MATERIAL	FROM	то
Despened Dug Bored	(brown sandy clay	0	20
Reconditioned Cable Driven Decomplision X Rotary Jetted	gray sandy clay	20	40_
	brown soft sittstone	40	51
(5) DIMENSIONS: Diameter of well 8 Inches.	gray sandstone	51	84
Drilled 340 feet. Depth of completed well 340 ft.	brown siltstone	64	75
(6) CONSTRUCTION DETAILS:	gray sandstone	75	110
Casing Installed:	gray sandstone water 1/2gpm	110	111
Welded 6 Diam from +2 ft to 58 ft X Liner installed 4 Diam from 40 ft to 340 ft	gray sandstone	111	124
Threaded Diam from ft. to ft.	brown sittstone soft	124	134
	gray sandstone	134	151
Perforations: XYes No	brown siltstone soft	151	180 210
Type of perforator used drill	gray sandstone brown siltstone soft	210	216
SIZE of perforations 1/4 in. by 1/4 in.	gray sandstone	216	269
4 perforations from 110 ft. to 111 ft. 4 perforations from 270 ft. to 271 ft.	gray course sandstone water 1gpm	269	270
perforations from the to the fit.	gray course sandstone	270	298
periorations non.	gray course sandstone water	298	299
Screens: XYes No K-Pac Location	gray course sandstone	299	321
Manufecturer's Name monoflex	gray sandstone	321	
Type pvc . Model No.			
Diam. 4 Slot size 20 from 310 ft. to 320 ft	shale trap 109		
Diam. Slot size from ft. to ft.		-	
Iravel/Filter packed: ☐Yes XNo ☐ Size of gravel/sand	shale trap 160	1	
Asterial placed from ft. to ft.		1	
A decided to the second of the		KEC	EIVE
Surface seal: XYes No Te what depth? 18 ft.  Material used in seal bentonite	Located in complience with sec 12-48 supplie	1.	
Oid any streta contain unusable water? Yes X No	by information supplied by owner.	T-NOV	1 4 200
Type of water? Depth of strate	by line mation adpoined by owner.	<del> </del>	2 600
Method of seeling strata off		DEPTO	FECOL
	02211	T	
7) PUMP: Manufacturer's Name			
Type: H.P.			
3) WATER LEVELS: Lend-eurlace elevation	Work Started 10/02/2002 . 19. Completed 10/	20/2002	10
(457 MSL) above mean sea levelft	100012002 .10. 00.0000 100	COLZUUZ	, 10
Static level 63 ft. below top of well Date 10/31/2002	WELL CONSTRUCTION CERTIFICATION:		
Artesian pressure   fbs. per equare inch   Date	I constructed and/or accept responsibility for construction	of this well, ar	ad its
Artesian water is controlled by (Cep, valve, etc)	compliance with all Washington well construction atlandar		
	and the information reported above are true to my best kn	owledge and b	det
) WELL TESTS: Drawdown is amount water level is lowered below static level	Type or Print Name Brannon Hopke Lice	nee No. 182	E
Was a pump test made? [XYes ] No If yes, by whom? Aquatech	(Licensed Driller/Engineer)	102	
Yield: 9.6 gel.fmin. with 167 it drawdown after 5 hrs.	Trainee Name Lice	nee No.	
Yield: 9.6 gal./min. with 72 ft. drawdown efter 5 hrs.		-	
Yield: 3 gel./min. with 0 ft. drawclown after 4 fes.	Drilling Company Aquatech Well Drilling & Pum	ps Inc	
Recovery data (time taken se zero when pump turned off) (water level measured	1 1 1		_
from well top to water level)	(Signed) Lice (Licensed Organismy)	nse No. <u>182</u>	2
Time Water Level Time Water Level Time Water Level			
0 269 1 265.5 2 261	Address 2722 Butler Crk Rd SedroWoolley W	a 98284	
3 259.5 4 257.1 5 254.9	Contractor's		40
10 244.4 15 233.6 30 204.2	Registration No. AQUATWD040K4 Date 11	/08/2002	. 18
Date of test 11/07/2002  Bailer test gal/min, with ft. drawdown after hrs.	IUSE ADDITIONAL SHEETS IF NEC	ESSARV	
Bailer teet gel/min. with ft. drawdown after hrs.  Viriest 3 gel/min. with stem set at 335 ft. for 1 hrs.			Ear
besign flow g.p.m. Date	Ecology is an Equal Opportunity and Affirmative Action special accommodation needs, contact the Water Re	m employer.	rur scam at
emperature of water Was a chemical analyses made? Yes No	(360) 407-6600. The TDD number is (360) 407-6006		Brain at
The Court of the C	( ,	_	

03 1901 275 SMSL

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## WATER WELL REPORT

Start Card No

TATE	OF	WASHINGTON	Water Right Farmit No. 32	14	2	_	3	R
			Nator anger a dillar sto.	_				

1	DWNER: Name / State / State / Hartille	Address - 1/4/ 31) 11 11 11 11	. 1)
201	LOCATION OF WELL: County	SM SE X Sec T I'N A	1/2
(2)	COCATION OF WELL. County	S/2/2 ST AF SYLVAY	W.M.
	75	The same of the sa	SIPTION
(3)	□ Irrigation □ DeWater Test Well □ Other □	(10) WELL LOG or ABANDONMENT PROCEDURE DESC Formation: Describe by color, character, size of material and structure thickness of aquifers and the kind and nature of the material in each stratum	a, and show
(4)	TYPE OF WORK: Owner's number of well (If more than one)	with at least one entry for each change of information.	7
	Abandoned ☐ New well ☐ Method: Dug ☐ Bored ☐	MATERIAL FROM	то /
	Deepened Cable Driven Reconditioned Rotary Jetted	10,1 50.1	
(5)	DIMENSIONS: Diameter of wellinches.	Brown Place I reason 1	1.1/
	Drilled 500 feet. Depth of completed well 300 ft.		
(6)	CONSTRUCTION DETAILS:	Burney & Dartilage 2	
	Casing installed: Diam, from Off. to	Gra. 21-16 free 50	.41%.
	Welded D. 90 Pien fra 20 44 300	17724, 21733.700	
	Threaded Diam. from ft. to ft.	short duck brown 18"	1975
	Perforations: Yes 1 No 1		
	Type of perforator used 579-24	Gras Smedstone 185	Aires
	SIZE of perforationsin. byin.		-
	perforations from 3500 ft. to 500 ft.	shale duck howing 340	.)00
	perforations fromft. toft.	4 / / / / / / / / / / / / / / / / / / /	
	perforations fromft. toft.	Grand SAndstone 245	J.y.y
	Screens: Yes No.		****
•	14anufacturer's Néme Model No.	Willer beging sanditar 18	350
	Pe Model No.		
'5	Diam. Slot size from ft. to tt.		-
	A		;
	Gravel placed from th. to the		
			7 19
		6.	
	Did any eleta contain unweight water 2 V		1
	Type of water?		
	Method of sealing strata off		
7)	PUMP: Manufacturer's Name 5/1/1/2/17		
	Type: H.P.	*	-
0) -	WATER LEVELS: Land-surface elevation		
(	Z 75 (SC) above mean sea level ft.		
	Static level ft. below top of well Date		
	Artesian water is controlled by(Cap, valve, stc.))		22.3
9)	WELL TESTS: Drawdown is amount water level is lowered below static level	Work started	, 19
9) V	Vas a pump test made? Yes No 1 f yes, by whom?		
	field: gal./min. with ft. drawdown after hrs.	WELL CONSTRUCTOR CERTIFICATION:	
	n n n	I constructed and/or accept responsibility for construction of	this well,
	n . n . n	Materials used and the information reported above are true to	
	lecovery data (time taken as zero when pump turned off) (water level measured rom well top to water level)	knowledge and belief.	
T	Ime WaterLevel Time WaterLevel Time WaterLevel	NAME MARKEY I boll . To	,
		(PERSON, FIRM, OR CORPORATION) (TYPE.O.	A PRINT)
		Address May Den 186 All	
	Date of test	and the second	
		(Signed) License No.	
	aller test gal./min. with ft. drawdown after hrs.	Contractor's (WELL DRILLER)	
	rtesian flow	Registration Date	
	processure of water Was a shortest as shortest water Was a shortest as shortest water wate		

Data and/or the Information on this Well Re (If more than one) Method: ROTARY (5) DIMENSIONS: Diameter of well 6 inche Orilled 260 ft. Depth of completed well 260 ft. (6) CONSTRUCTION DETAILS: Lasing installed: MELDED Dia. from #3 Dia. from 260 Dia. from Perforations: YES Type of perforations 1/8
SIE of perforations 1/8
BO perforations from 240 ft.
perforations from ft. in. by 6 ft. to 260 ft. to ft. to cerforations from Screens: NO Manufacturer's Name rodel no. B-JyT slot size Disa. from Dian. slot size from Gravel packed: NO Size of gravel ft. to Gravel placed from ft. Surface seal: YES To what depth? 18 Material used in seal PUDDELING CLAY Did any strata contain unusable water? #0

Type of water?

Method of sealing strata cff Department of Ecology does NOT Warrar 17: PUMF: Manufacturer's Name (380 MSL) Static level Land-surface elevation above mean sea level ... it ft. below top of well Date 03/04/9 Artesian Pressure lbs. per square inch Date Artesian water controlled by 191 WELL TESTS: Drawdown is amount water level is lowered below static level. Has a pump test made? NO If yes, by whom?
ft. drawdown after gal./min with vield: Recovery data Time Water Level Time Water Level Time Water Leve est //
gal/min. ft. drawdown after
gal/min. w/ stem set at 255 ft. for 1.5
Date Date of test Bailer test Air test 12 Artesian flow Temperature of water Temperature of water Was a chemical analysis made? NO

H. 'ER ME STATE OF	LL REPORT Start dars No. 076561
STATE OF	NASHINGTON Wats Right Weig.; No.
11) OWNER: Name WICHOLSON, BILL Address 1019	WARREN STREET MOUNT VERMON, WA 98273-
OF THE VIEW OF MEET - CONSTO SHOWNESS	. CM I/A ME I/A COP I I 30 Y DAE WM
C1 LOCATION OF WELL: County SNOHOMISH (2a) STREE: ADDRESS OF WELL for nearest address) 3205 324TH STRE	ET N.W.
(1) BOODOSSO USS. DOMESTIC	Formation: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum senetrated, with at least one entry for each change in formation.  MATERIAL FOR TO TOPSOIL FACTOR TO TOPSOIL TAN CLAY GRAY CLAY - SEEPAGE 12 15
1)1 PROPUSED VOICE DONESTED	11101 MELL COU 32/72-091
(4) TYPE OF NORK: Owner's Mumber of well	Formation: Describe by color, character, size of material
MEM MELL Method: ROTARY	and structure, and show thickness of adulters and the kind
	at least one entry for each change in formation.
(5) DINENSIUNS: Diameter of well 6 inches	MATEGRAL ' FCOR ' TO
E-111-4 ave tel cohen al complete apil con 161	TOPSOIL
(6) CONSTRUCTION DETAILS:	TAM CLAY GRAY CLAY - SEEPAGE GRAY GRAYEL & SOME CLAY 12 15 15 40
Tasing installed: 6 Dia. from +3 ft. to 87 ft.  WELDED 4 Dia. from 260 ft. to 60 ft.  Dia. from ft. to ft.	GRAY CLAY - SEEPAGE 12 15 GRAY GRAYEL & SOME CLAY 15 40
"Dia. from ft. to ft.	GRAY GRAYEL & CLAY
Parforations: VSS	TAN CLAY'S COATOR COAU
Type of perforator used SXILL SAW	GREEN SAND & CLAY
SILE of perforations 1/8 in. by 6 in.	: GRAT GREEN SANDSTORE : 78 : 87
perforations from ft. to ft.	GRAY SANDSTONE B7 103
Type of perforator used SKILL SAW SILL of perforations 1/8 in. by 6 in. 80 perforations from 240 ft. to 260 ft. perforations from ft. to ft. Gerforations from ft. to ft.	GRAY SANDSTONE 132 150
Screens: NO	GRAY SANDSTONE   B7   103   132
	GRAY BROWN SAMDSTONE 207
lyre Fodel No.	GRAY BROWN SILTSTONE CLAM SHELLS 207 212 GRAY SANDSTONE 212 252
Dian. slot size from ft. to ft.	GRAY SANDSTONE & WATER 252 ; 254
Manufacturer's Name Type Model No. Diam. slot size from ft. to ft. Diam. slot size from ft. to ft. Gravel packed: NO Size of cravel Gravel placed from ft. to ft.  Surface seal: YES To what death? 18 ft.	GRAY SANDSTONE & MATER 252 254 GRAY HARD SANDSTONE 254
Gravel placed from ft. to ft.	
Surface seal: YES To what depth? 18 ft. Material used in seal PUDDELING CLAY	
Did any strata contain Housable water? NO	
Type of water? Depth of strata ft. Method of sealing strata cff	i. i. i.
Metana as agattas attere en	
17: PUMF: Manufacturer's Name	
Type N.P.	1 1
(S) WATER _EVELS: Land-surface elevation above mean sea level it. Static level 15 (t. below top of well Date 03/04/91	
(380 MSL) above mean sea level ft.	i a sa a a a a a a a a a a a a a a a a a
Artesian Pressure los, per square inch Date	
Artesian water controlled by	Nork started 02/28/91   Geopleted 03/04/91
191 WELL TESTS: Orandown is amount water level is lowered below	
MAS & DUMP (EST MAGE: MO )! YES, DY KINM!	I constructed and/or accept responsibility for con- struction of this well, and its compliance with all
vield: gal,/min with ft. drawdown after hrs.	Washington well construction standards. Materials used
	and the information reported above are true to my test knowledge and belief.
Recovery data	
Time Water Level Time Water Level Time Water Level	MANE HAYES DRILLING, INC.  (Person, firm, or corporation) (Type or crint)
Date of test / /	ADDRESS 556 ERSHIG RD. , 80%, WA
Bailer test gal/min, ft, drawdown after hrs.	(SIGHEO) Du Jule . ICERSE NO. 1825
Air test 12 gallein, w/ sten set at 255 ft. for 1.5 hrs.	
Artesian flow g.p.m. Date femperature of water Was a chemical analysis made? NO	Contractor's Registration No. HAYESDIJO6JS Gate 03/14/91
Title of the second sec	
	1331

CKY OD Inventored well REGIN

MAR 28 123

Les CK400 notepooks for invite

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File Original and First Copy with 'Department of Ecology WATER WELL REPORT Application No. ..... Department of Ecology Second Copy — Owner's Copy Third Copy — Driller's Copy Permit No. ... 1221623 STATE OF WASHINGTON CANNICH CHAIN IN (1) OWNER: Name !! LOCATION OF WELL: County ..... T. N. R. WM. 14 1 1 14 Sec. ag and distance from section or subdivision corner 32 (10) WELL LOG: 5 (3) PROPOSED USE: Domestic Industrial Municipal I Irrigation | Test Well | Other Formation: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of formation. (4) TYPE OF WORK: Owner's number of well (if more than one).... MATERIAL FROM New well Bored [ Method: Dug AN SAUN LOW AN SAUN LOW AN ELLIN GRAVE Deepened Cable [ Driven [] n Reconditioned [ Rotary D Jetted [ (5) DIMENSIONS: Diameter of well ... My HARAPAN inches. Drilled 220ft. Depth of completed well 420 ft. I CHAU - ANDOS PANT 2 CAU MANUS MALE + (6) CONSTRUCTION DETAILS: WATTER Casing installed: \_\_ Diam. from 1 \_\_ ft. to 420 ft. Threaded [ ." Diam. from ..... ft. to .... " Diam. from .... Welded [] .. ft. to ... Perforations: Yes | No D Type of perforator used continue according to the confidence of the confidence SIZE of perforations ..... ... in. by ..... \_\_ in. .... perforations from ..... ft. to . 44 \_\_\_\_ perforations from ..... ..... ft. to . perforations from \_\_\_\_\_ ft. to \_\_ Screens: Yes | No [5] Manufacturer's Name ..... Model No. Type. Diam. ..... Slot size ..... from ..... ft. to ..... Diam. ..... Slot size ..... from ..... ft. to ..... Gravel packed: Yes No No Size of gravel: Gravel placed from \_\_\_\_\_ ft. to ..... ft. Surface seal: Yes No To what depth? ft. Did any strata contain unusable water? No 🖸 ..... Depth of strata... Type of water? .... Method of sealing strata off..... (7) PUMP: Manufacturer's Name..... ... H.P. Type: (8) WATER LEVELS: Static level Land-surface elevation above mean sea level... ft below top of well Date ......lbs. per square inch Date... Artesian pressure .. Artesian water is controlled by ..... NORTHWEST Drawdown is amount water level is lowered below static level (9) WELL TESTS: Work started ( 23 . 1922 .. Completed. Was a pump test made? Yes [] No [] If yes, by whom?... WELL DRILLER'S STATEMENT: Yield: gal/min. with ft. drawdown after hrs. This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief. Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level) (Person, firm, or corporation) (Type or p AND MELL Time Water Level | Time Water Level | (Type or print) [Signed] pailer test\_\_\_\_\_gal/min, with\_\_\_\_\_ft. drawdown after\_\_\_ .g.p.m. Date..

License No..

(16.11

Date

-

Temperature of water............. Was a chemical analysis made? Yes 🔲 No 📋

6 82/01 02/01 605 MSL

File Original and First Copy with
Department of Ecology
Second Copy — Owner's Copy
Third Copy — Driller's Copy

L\S\1726 | 22\54| STATE OF WASHINGTON Application No. ..... Permit No. ... LOCATION OF WELL: County..... 727 12 151. W.M. R. W.M. ing and distance from section or subdivision corner (10) WELL LOG: 32/45-2L (3) PROPOSED USE: Domestic [ Industrial [ Municipal [ Irrigation | Test Well | Other | Formation: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of formation. (4) TYPE OF WORK: Owner's number of well (if more than one).... MATERIAL New well ☐ Method: Dug ☐ Bored ☐ 10,0 5014 Deepened Cable Cable Driven D Reconditioned [ Rotary . Jetted | 774N ARBRO (5) DIMENSIONS: Diameter of well ..... Drilled ft. Depth of completed well // ft. (6) CONSTRUCTION DETAILS: Casing installed: \_\_\_ Diam from \_\_\_ ft. to \_\_\_ ft. Threaded [] "Diam. from \_\_\_\_\_ft. to \_\_\_\_\_ft. Welded [ Diam. from ..... ft. to ..... Perforations: Yes O No D Type of perforator used.... SIZE of perforations \_\_\_\_\_ in, by \_\_\_\_ in. perforations from \_\_\_\_\_ ft. to \_\_\_\_ \_\_\_ perforations from \_\_\_\_\_ ft. to \_\_\_\_ perforations from \_\_\_\_\_ ft. to \_\_ Screens: Yes O No E Manufacturer's Name Туре..... Model No. Dlam. Slot size ..... from ..... ft. to .... Diam. \_\_\_\_ ft to \_\_\_\_ ft. Gravel packed: Yes No Size of gravel: Surface seal: Yes [ No [ To what depth? Material used in seal Did any strata contain unusable water? Yes Type of water? Yes Depth of strata Method of sealing strata off.... (7) PUMP: Manufacturer's Name Type: (8) WATER LEVELS: Land-surface elevation above mean sea level...
Static level ft. below top of well Date Artesian pressure \_\_\_\_\_\_lbs. per square inch Date\_\_\_ Artesian water is controlled by...... (Cap, valve, etc.) Drawdown is amount water level is lowered below static level (9) WELL TESTS: Work started 19 Completed Was a pump test made? Yes [ No [] If yes, by whom?... WELL DRILLER'S STATEMENT: ft. drawdown after Yield: gal./min. with hrs. This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief. Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level) NAME (Ferson, drup, or corporation) (Type or print) Time Water Level | Time Water Level | Time Water Level Address Mar Garalle 18 KU CBOMMIOLS NOV 1 8 1985 . [Signed] (Well Driller) Jate of test ..... Bailer test gal/min. with ft. drawdown after hrs. VERSUOSA FOUNDAMENT \_\_\_\_g.p.m. Date.... Artesian flow. g.p.m. Date

Temperature of water. Was a chemical analysis made? Yes | No | License No. 2227 | Date. | 19

3

	Second Copy - Owner's Copy	WASHINGTON 21657 Permit NoO	19.160
1	1) OWNER: Name Tor METER	Address 2387 Stackind no	I Mt lernon
à		- SE SE 18.34 7.33.	R WW
Rep	Bearing and distance from section or subdivision corner	Trinovina adulti taran surreinin su	The state of the s
	(3) PROPOSED USE: Domestic Sandustrial D Municipal D	(10) WELL LOG: 33/42-34/	
Well	Irrigation   Test Well   Other	Formation: Describe by color, character, size of material and show thickness of aquifers and the kind and hature of the me stratum penetrated, with at least one entry for each change	structure, and
this	(4) TYPE OF WORK: Owner's number of well		
. <del>1</del>	New well Wethod: Dug D Bored D	MATERIAL PRO	M TO
n	Deepened Cable Cable Driven Carry Ca	10/ 500	1-
=		Brown sANDY Clay 2	20
음	(5) DIMENSIONS: / Diameter of well inches. Driffed Depth of completed well	111111111111111111111111111111111111111	
13		GURY SOLKY CLAY &	2 40
Ĕ	(6) CONSTRUCTION DETAILS:	Solvistione 4	2 420
Je	Casing installed: 6 Diam from 6 to 7 to		
<u> </u>	Welded D Diam. from ft. to ft.		
Data and/or the Information on	Perforations: yes D No D		
-	Type of perforator used		
S S	SIZE of perforations in. by in.		
ĕ	perforations from		
ez ez	perforations from		
at	Screens: Yes D No D		<del>                                     </del>
	Nanufacturer's Name		
9	Type Model No.		
1.	Diam Slot size from ft. to ft.		T - C.
1			1
to.	Gravel placed from ft. to ft.		- W
Warrant			C
3	Surface seal: Yes No D Townat depth?	·	7
NOT	Did any strata contain unuashle water? Yes D No E		
ž	Type of water? Depth of strate		WIELD -
S	Method of sealing strate off.		MIZILI
does	(7) PUMP: Manufacturer Name SEA-Left		1-10
D	Type: SOP HF-/S	OCT   2	989
ogy	(8) WATER LEVELS: Land-surface elevation above mean sea level		
읒	Statle level   D below top of well Date	DEPARTMENT OF	
8	Artesian pressure	NORTHWEST	REGION
Щ	(Cap, valve, etc.)		
0	(9) WELL TESTS: Drawdown is amount water level is lowered below static level	Work started July 6, 19.89 completed July	12.089
1	Was a pump test made? Yes [] No W II yes, by whom?	WELL DRILLER'S STATEMENT:	
THE	Yield; gal/min. with ft. drawdown sflet hrs.		is report to
五	.1 11 11 11	This well was drilled under my jurisdiction and the	
The Department of Ecol	Recovery data (time taken as zero when pump turned off) [water lavel measured from well top to water lavel]	Anoron Moll	10
å	Time Water Level   Time Water Level   Time Water Level	(Person, firm, or corporation) (Type or	print)
· w	Const. S course communications of the contraction o	7412-7044 16	Ael
£	. (	Address	
1	> Date of test plane and provide and and and	[Signed] fact Outlier	
1	Selles lest gal/min, withtt. drawdown afterhrs.	(Wall Dellier)	-0
	Artesian flow	License No. (562 Date JULy 1	2,1087

100724

Notice of Intent W135810

UNIQUE W	ELLID.#	AFP952	
nit No.		3-4F.	

Department of Ecology	WA	ER WELL REP	ORI UNK	QUE WELL I D. #
Second Copy - Owner's Copy Third Copy - Driller's copy		STATE OF WASHINGTON	Water Right Permit No.	33
(1) OWNER: Name John & Miche	eale Yengich	Address 23734	Fremali Lane, Mt.Ven	non, WA 98274

LOCATION OF WELL: county <u>Skagit</u> (2a) STREET ADDRESS OF WELL (or nearest address) <u>same</u> TAX PARCEL NO.	- SE 1/4 SW 1/4 Sec 34 T	33 N.R 4	E_ WK
(3) PROPOSED USE: Domestic Industrial Municipal Test Well Other	(10) WELL LOG or DECOMMISSIONING PROCED Formation: Describe by color, character, exze of material and structure, nature of the material in each structure penetrated, with at least one entry of antomation. Indicate all water encountered.	and the land and	-
(4) TYPE OF WORK: Owner's number of well (If more than one)		I spen I	70
X New Well Method	MATERIAL	FROM	TO
Deepened Dug Bored	topsoll	2	15
Reconditioned Cable Driven	brown clay gravel	-	15
Decommission Rotary Jetted	gray clay gravel	15	26
(5) DIMENSIONS: Diameter of well - 6 nches	granite boulder	26	27
Onited 500 feet Depth of completed well 500 . R	gray gravel clay	27	44
	brown clay gravel	44	51
(6) CONSTRUCTION DETAILS:	gray clay gravel	51	62
Casing Installed:	gray sandstone	62	70
X  Welded	gray sandstone shells	70	79
X Liner installed 4 Diam from -10 ft to 500 ft  X Threaded Diam, from ft, to ft	gray sandstone	79	90
	brown siltstone .	90	95
Perforations: Yes XNo	gray sandstone	95	123
Type of perforator used	brown sandstone shells	123	131
SIZE of perforations In by In	gray sandstone	131	134
perforations from ft. to ft.	brown siltstone	134	135
perforations from fit to fit	gray sandstone	135	170
perforations from the to the fit	brown slitstone shells	170	174
	gray sandstone	174	211
Screens: XYes No K-Pac Location	brown siltstone	211	221
Manufacturer's Name Monofley	brown fine sandstone	221	227
Type s.s. Model No	gray fine sandstone	227	248
Diam 4 Slot size 20 from 250 ft to 260 ft	gray fine sandstone .25gpm	248	252
Dram 4 Slot size 20 from 450 ft to 460 ft	brown silt stone	252	255
	brown sandstone	255	265
Gravel/Filter päcked: Yes No Size of gravel/sand	gray fine sandstone	265	279
Material placed from ft to ft.	brown fine sandstone shells	279	280
Surface seal: Yes XNo To what depth? 1	brown fine sandstone sittstone layers	280	301
Material used in seal	black basalt	301	302
Did any strata contain unusable water? Yes XINo	brown siltstone layered basalt	302	314
Type of water? Depth of streta	gray fine sandstone	314	393
Method of sealing strate off	gray course sandstone shells	393	407
	gray fine siltstone	407	421
(7) PUMP: Manufacturer's Name	black basalt	421	427
Type H P	Continued on next page	125	761
10) 11/4 TOTA 1 CT	- Contained on next page	1	
(8) WATER LEVELS: Land-surface elevation shows mean sea level ft	Work Started 07/18/2001 . 19 Completed 07/	21/2001	, 19
State level 194* It below top of well Date 07/26/2001 Artesian pressure   Ibs per square inch Date  Artesian water is controlled by (Cep, valve, etc)	WELL CONSTRUCTION CERTIFICATION:  1 constructed and/or accept responsibility for construction compliance with all Washington well construction standar and the information reported above are true to my best for	de Materials u	eed
(9) WELL TESTS: Drawdown is amount water level is lowered below static level Was a pump test made? [Yes [No If yes, by whom?	Type or Print Name Wayne Logsdon Uce		
	(Licensed Onliet/Engineer)		
	Traines Name Work Soop uce	nse No	
Yield gal/min with ft drawdown after hrs Yield gal/min with ft drawdown after hrs.	Driling Company Aquatech Well Drilling & Pum	ps Inc.	
Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)	(Signed) Walk Stage Lice	nse No 2146	1
Time Water Level Time Water Level Time Water Level	Address 2722 butler Crk Rd SedroWoollev W	a 98284	
	Contractor's		. 19
Date of test			, 13
Bailer test gal Irran with fit drawdown after has	(USE ADDITIONAL SHEETS IF NEC		
Artest 1/4 gal/mm, with stem set at 500 ft, for 1 hrs Artestan flow g.p.m. Oste	Ecology is an Equal Opportunity and Affirmative Actu-		

in. with storm set at 500 ft. for 1 hrs Ecology is an Equal Opportunity and Affirmative Action employer. For special accompandation needs, contact the Water Resources Program at Was a chemical analyses made? Yes 300 407-6600 The TOD number is (360) 407-6006. AUG 2 8 2001

100724

Artest 1/4 Artesian flow Temperature of water

DEPT OF ECOLOGY

The Department of Ecology does NOT Warrant\*\*\*e Data and/or the Information on this Weil Repr

35	1 MS1 21996 Statist 33/4	E/3	K (35
File Onginal and First Copy with Department of Ecology Second Copy—Owner's Copy Michael DESITE STATE OF	Start Card No	276	653
1) OWNER: Nemo JACK SPEAGUE	Address 2368 STALBIRA	080	No.
(2) LOCATION OF WELL: COUNTY SKAST  20) STREET ADDRESS OF WELL (or nearest address)	NW . 5E . s. 3 T	33 <sub>N., F</sub>	4 W.M.
	(10) WELL LOG OF ABANDONMENT PROCEDU	IDE DEC	CONTION
3) PROPOSED USE: Shoomealic Industrial   Municipal	Formation: Describe by color, character, size of material		
A) TYPE DE WORK. Owner's number of well	thickness of squiters and the kind and nature of the material is with at least one entry for each change of information.	sach stratu	n penetrated,
Critical state days	WATERIAL	FROM	TO
Deepened C Cable C Briven C	Tolson	0	2
Reconditioned  Rotary  Jetted	TAN SANDY CLAY	2	10_
i) DIMENSIONS: Diameter of well inches.	HARDIAN'	10	20_
Drilled 362 feet. Depth of completed well 362 tt.	SOFT SANDSTONE	20	82
CONSTRUCTION DETAILS:	SANDSTONE	182	362
1 . 7 97		-	
Casing installed: C Diam. from th. to D R. Welded D Diam. from th. to th. to th.		-	
Liner installed   Diam. from the to the transfer of the transf			
		-	-
The state of the s			-
Type of perforator used			
perforations from			
perforations from the to the fit.			
Screens: Yes No.	3/4 15		
Manufacturer's Name		-	-
Type Model No	B. T.		-
DiemSlot sizefromM, toM.	RECEIVED		
Diam. Siol size from h, to M.	••••		
Consultant to [] 11-[V	AUG 2 0 1990		
S. OFFE OI BIRLAI		119	(
Gravel placed from 11. to 11.	BEPT. OF ECOLOGY		1
Material used in seal BENTON ITE			
Did any strate contain unusable water? Yes No			-
Type of water? Depth of strata			200
Method of easing strate off			
PUMP: Manufacturer's Name GARLIAD FOS			1/11/11
Type: SUB HP 1/2			
WATER LEVELS: Land-aurison elevation above mean sea level			,
WATER LEVELS: Land-surface elevation shore mean ease level (35) PISL (60 ft. below top of well Date 8-17-70.	•		/
Artesian pressure lbe, per square inch Date		<u> </u>	
Artselen water is controlled by (Cop. valve, etc.))	VALLETA	-7-	OX
WELL TESTS: Drawdgwn is amount water level is lowered below static level	Work started X-14-90, 19, Completed X		_, 1970
Was a pump feet made? Yes Sio A # yes, by whom?	WELL CONSTRUCTOR CERTIFICATION:		
Vield: gal./min, with ft_ drawdown after fore,	I constructed and/or accept reaponalbility for cone	desettes of	this wall
M ps ef et	and its compliance with all Washington well con	struction e	standards.
Electronic della Cilina Indiana della Cilina Indian	Materials used and the information reported above knowledge and belief.	are true to	o my best
Recovery data (time taken as zero when pump terred off) (water level measured from wall lop to water level) Time Weter Level Time Water Level Time Water Level	NAME CAMADO WELL DRIE	LIN	5
	O A A	TA P	A J. I a
	Address +OBOY 437 - STAN	MOO	WA
Date of test	10 101 51	40.4	11
Baller leet gal./min. with \$1. drawdown after fire.  Africa: 3 12 gal./min. with stem set at \$1. for fire.	Contractor's Well Drillero  Contraction  No. (And At.) (A) () (4(c) Date  8-	10. OF	211_
Artesian flow p.p.m. Date	No CAMADIND   46PZato 8-	1	19.70

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1	1
100	-

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	Mouss Plessepric Eignand return	n to the Department of Ecology 3 3	15	770
	APD 1 0 com	Current Notice of Intent No. W161054	. <-	2111
1	Original - Ecology, 1st copy nowner, 2nd copy -driller	Notice of Intent No. 10 16 10		
	Construction/Decommission	Unique Ecology Well ID Tag No. AG	5 11811	
	Construction	Water Right Permit No.		
	Decommission ORIGINAL INSTALLATION Notice		TANT	7_
	of Intent Number	Well Street Address 22644 Rose		
	PROPOSED USE: Domestic   Industrial   Municipal			
	DeWater Trigation Test Well Other	CityMT, VERNON County 5		
	TYPE OF WORK: Owner's number of well (if more than one)	Location NW 1/4-1/4 SW 1/4 Sec 27 Twn 33	R4 CW	circle
	New well Recanditioned Method: Dug Bared Driven	Lat/Long (s, t, r Lat Deg Lat	WWI Min/Sec	M L duc
	Deepened Cable MRotary Jened	]	MIN Sec _	
	DIMENSIONS: Diameter of well inches, drilled _ 504 ft.	still REQUIRED ) Long Deg Long	ng Min/Se	c
	Depth of completed well 50 4 A.  CONSTRUCTION DETAILS	Tax Parcel No. P 118081	_	
	Casine Welfeld 6 " Diam from + 2 A to 160 A	Tax Falcel Ho. P. T. OBOT		•
	Installed Miliagrings Hill " Diam from 11 6 to 5016 6	CONSTRUCTION OR DECOMMISSIO	N PROCED	URE
•	Threated - Diam. from ft. to ft.  Perforations: Yes No	Formation: Describe by color, character, size-of-material-and		
	Type of perforator used SVIII SALL F.	nature of the muterial in such stratum penetrated, with at least information indicate all water encountered. (USE ADDITION		
-	SIZE of perfs & in. by 3/4 in. and no. of perfs 300 from 40 % to 504.	MATERIAL .	FROM	TO
	Screens: Yes No CK-Pac Location	TOP SOIL	0	1
١	Manufacturer's Name	TAN HARD PAN	1	9
l	Type Model No.  Diant Slot size from ft. to ft.	GREY HARD PAN	9	82
	DiamSlot sizefromft. toft.	GREY CLAY WIGRAVEL	82	186
1	GraveVFilter packed: Yes Mo Size of graveVsand	GREY SAND! ARAUEL-CLAY	86	97
I	Materials placed from ft.	GREY SILT	97	94
١	Surface Seal: : Yes No To what depth? A.	SAND WOOD SOME WATER	94	98
1	Material used in seal BENTONITE	SANO GLAY WOOD WATER	98	184
I	Did any stratu contain unusable water? Yes No	GREY CLAY	104	166
1	Type of water: Depth of strata	GREY SAND W/CLAY	106	119
ŀ	PUMP: Manufucturer's Name	SILTY TAN CLAY W/WATED	119	136
I	Type:	SANDY GRBY CLAY	136	149
1	WATER LEYELS; Land-surface elevation above mean sea levelR.	GREY SAND	144	148
	Static levels 168 ft. below top of well Date 4/10/05	GREY CIAY	140	152
ı	Artesian pressure lbs. per square inch Date	GREY SAND	153	155
l	Artesian water is controlled by	TAN SAND STONE	155	156
ŀ	(cap, valve, etc.) WELL TESTS: Drawdown is amount water level is lowered below static level	GREY SAND STONE	156	380
	Was a pump test-made? Yes 'PNo. If yes, by whom?	TANSILT STONE	780	383
١	Yield: gal/min, with fl. drawdown after hrs.	SAND STONE	363	384
ı	Yield: gal/min, with ft, drawdown after hrs.	SILT STONE & COAL	364	386
	Yield: gsI/min, with ft. drawdown after hrs.  Recovery duta (time taken as zero when puny turned off) (water level measured-from well	SILT STONE	386	410
	top to water level)	COAL	470	415
ľ	Time Water Level Time Water Level Time Water Level	SILT STONE	415	442
1		GREY SAND STONE	442	457
	Date of test	SUT STONE	457	459
		SILT STONE .	459	470
	saffer testgal/min, withfl. drawdown afterhrs.  Airtest	SAND STONE WILLIATED	470	504
	Anesiân flow g.p.m. Date	Jaso Jaso Lyman		
	Temperature of water Was a chemical analysis made?  Yes No		-	
		Start Data 3-6-05 Completed	Date 4-1	0-05
W Or	ELL CONSTRUCTION CERTIFICATION: I constructed and/or acce ashington well construction standards. Materials used and the information literEngineer/Trainee Name (Print) JOSEPH NUNES	reported above are true to my best knowledge and Driffing Company AMAND WEN		
	Iller/Engineer/Traince Signature	Address PO BOX 432	0000	2
_	ller or trainee License No	City, State, Zip STAUWOOD WA	1021	<u></u>
	TRAINEE,	Contractor's Registration No CAMAU WO1A lo R2	w: A-1	10-05.
D	iller's Slenature	registration not that it and all 10 Km	rate	